

VG540

**Towards 2000 Herb Industry Conference
& Expo, Bairnsdale, July 1996**

Paul Heaton Harris

VIC Eastern Development Association



Know-how for Horticulture™

VG540

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**HORTICULTURAL
RESEARCH &
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Partnership in
horticulture

TOWARDS 2000
HERB INDUSTRY
CONFERENCE & EXPO

CONFERENCE
NOTES

5th & 6th JULY 1996
BAIRNSDALE
VICTORIA



HORTICULTURAL RESEARCH &
DEVELOPMENT CORPORATION

The Research Arm of the
Australian Horticultural Industries

VEDA

Developing Eastern Victoria

INTRODUCTION

The notes contained in this publication are the actual notes taken from speakers at the **TOWARDS 2000 HERB INDUSTRY CONFERENCE AND EXPO** held in Bairnsdale on the 5th and 6th of July 1996. They have been transcribed from tape recordings made at the conference and notes supplied by speakers. Every attempt has been made to obtain all information imparted at the conference. There are a couple of breaks where the tape recordings were changed and a number of the questions were inaudible.

In general these notes contain valuable and up to date information for those growers who are seeking to expand, or individuals who are looking to enter the herb industry. They contain specific industry advice and indicate where market opportunities might be found. Some thoughts will create controversy and differing points of view were encouraged in the conference format. Allowing a wide framework within which individuals can discuss and develop will provide for a sustainable herb industry and enthusiastic participants who are prepared to meet industry requirements.

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CONFERENCE PROGRAM

DAY 1 FRIDAY 5TH JULY 1996

- 9.00am - 9.30am:** Registration and coffee.
- 9.30am - 9.45am:** Welcome and conference outline.
- 9.45am - 10.15am:** Culinary Herbs (Fresh)
Australian Herb Supplies (Gil Tucker)
- 10.15am - 10.45am:** Culinary Herbs (Dried)
H J Langdon Pty Ltd Importers (Ross Brownbill)
- 10.45am - 11.15am:** Morning Tea.
- 11.15am - 11.45pm :** Hydroponics
The importance of value adding (Jenni Dixon)
- 11.45am - 12.15pm :** Medicinal Herb Uses
Naturopath (Rose Cornelissen-Mok)
- 12.15pm - 1.15pm :** Lunch..
- 1.15pm - 2.00pm:** Logistics of Farming Herbs
Southern Light Herbs (Mike Brouwer)
- 2.00pm - 2.45pm:** Medicinal Herbs
(Manufacturer)
Nutrisearch / Hobler- Mann (Warren Morey)
- 2.45pm - 3.30pm:** Pharmaceutical Plant
Company- Buyer (Howard Jarvis)
- 3.30pm - 4.00pm:** Afternoon tea
- 4.00pm - 4.30pm:** Essential Oils (Manufacturer)
Essential Oils of Tasmania (Witold Petruzewicz)
- 7.30pm:** Conference Dinner Guest Speaker -
PeterMcGauran, Minister for Science and
Technology Launch of "Growing With Herbs"

DAY 2 SATURDAY 6TH JULY, 1996

- 9.00am - 9.15am:** Welcome and recap
- 9.15am - 9.45am:** Economics of Herb Farming
Horticultural Economic Scientist (Don Beech)
- 9.45am - 10.30am:** Certification and growing
Tumbetin Broadacre Herbs (Robert Down)
- 10.30am - 11.00am:** Morning tea.
- 11.00am - 11.45 Noon :** Networking for Profits
Toronto Lane Pty Ltd (Brian Norwood)
- 11.45 Noon - 12.15pm:** Question Time
- 12.15pm - 1.30pm:** Lunch.
- 1.30pm - 2.15 Opportunities in Networking**
Focus on Herbs Consultancy (Kim Fletcher)
- 2.15pm - 3.00pm Government Assistance**
- Aus Industry - Les Leckie
 - Department of Agriculture
 - Horticultural Research and
Development Corporation
Dr Robert Sward
- 3.00pm - 3.30pm:** Afternoon tea
- 3.30pm - 4.00pm:** Where to from here ?
The future.
- 4.00pm - Completion.**

CULINARY HERBS (FRESH)
AUSTRALIAN HERB SUPPLIES - Mr Gil Tucker

Australian Herb Supplies was formally established in 1987 as a wholesaler and distributor of fresh, quality produce to the restaurant and food industry in Melbourne. Since then the company has grown under the guidance of Directors Gil Tucker, Royce Hagen and Grahame Alcock. Today, Australian Herb Supplies is a principle supplier to the food industry.

The development has resulted in a diverse client base which includes major restaurants, hotels, national catering companies, airlines, selected supermarket chains, commercial food manufacturers, export markets (specifically Asia) and a retail profile at Melbourne's Prahran Market. The product is sourced from quality growers across Australia and is currently distributed through Australian Herb Supplies agencies in Melbourne and Sydney. The emphasis placed on quality and customer servicing is evidenced in the company's distribution networks with a fleet of insulated delivery vans and a commitment to scheduled air freight services for produce destined for interstate and international markets.

Based in Melbourne with a dedicated team of twelve, Australian Herb Supplies is actively seeking to develop and diversify their extensive product range and client base to ensure that future market demands are met and the advantages of purchasing fresh, quality Australian produce are recognised in domestic and international markets.

It's a bit of a hobby horse of mine that no longer can we as people in Australia be in competition with the person down the road or somebody in Sydney or Melbourne. We are now in competition with people worldwide. Our herbs and our quality of herbs, our quality of service and our pricing has to be competitive with the Dutch, the French, the English, and as the world shrinks, if somebody in Australia wants herbs and we can't get it to them at the right price they'll go overseas, mainly because the price of transporting between countries obviously is coming down. So we have to improve what we're doing in terms of those three factors - the price - the quality - and the service.

It brings us really I suppose to why we're all here this weekend and that is where to now. What can we do now? Of course we can still, yes, supply to restaurants the way we have been, of course there is still a big market for that, of course we can still go to the larger catering companies, of course we can still go to these big bulk places, but I think something more than that has to happen. I feel that we as a group in terms of growers, in terms of an industry, have to somehow or other organise ourselves into a situation whereby perhaps it is some broad scale farming or we get together as a collective or whatever, but we have to produce a lot of herbs at a lower price and it's up to people like us to find the markets. There will be markets out there, people are using herbs more and more and more each day, but unfortunately we are restricted, largely because of the recession that has dropped the prices, and also too because of competition we are restricted to a lower price. So, although I'm not painting a particularly brilliant picture I think there is a big future out there but we have to look to ways of reducing our price, planting more and selling more.

The "tiger" countries they call them, the Asian countries, when they have a problem in the characters in the word "problem" up comes the word "opportunity". Just recently somebody was in Osaka, an Australian person, saw smog one morning and said to the Japanese gentlemen "You have a very big problem, we have all this smog here". He said, "Oh, yes", he said, "We do have a very big problem, however, in the next 10 years we're going to solve this problem, we're going to export our technology all over the world". That is the way these people are thinking, and I think that's why it's great we said "Towards 2000". Perhaps if we were in Asia it would be "Towards 2020". That's how they would probably couch it. We have great difficulty, I think, in our whole psyche, in thinking past next year or the year after. We have to try and step out in the future, try and look to see what is required - it's exactly what the Asians do - what is required, not this year and next year, but what is required in 10 years time and then work towards that goal. I'm not sure how to do it, and I'm not pretending to, all I'm saying is that I'm trying to give you an inkling of where you people as prospective growers or producers what to grow, that's terrific, but it's got to go somewhere and I'm trying to give you an idea of perhaps where we have to look for those markets.

CULINARY HERBS (DRY)
HJ LANGDON PTY LTD - Mr Ross Brownbill

H.J. Langdon is an integrated supplier of food ingredients, it was formed in 1852, so they've been around for a long time when Henry Joseph Langdon left the India company, which most of you would be familiar with in history. Over the past century and a half, Langdon's have come to understand the demand for their customers to provide exceptional service, a dependable supply of quality ingredients, flexibility and experienced advice on new products, trends and technical matters. To ensure customer requirements are met, they hold a comprehensive stock range in first class warehousing facilities in major cities of Australia and New Zealand. Two modern laboratories enable them to perform ongoing quality control. Specialised services such as blending, cream mixing, grinding, sieving, batching and repacking are available through their food blenders division. They provide quality assured traceable food ingredients from around the world. Some 30 significant companies in Australia, North and South America and the Far East confidently now use them as their regional agents and distributors.

I've done this two or three times before as I think a few of you I've seen before. I'm a bit of a Doctor Doom in this because I'm the importer. I'm the person you're trying to beat. You're my competitors of the future - hopefully. I want you to be the competitors. I don't want to import herbs.

As was read out before we've been in business a century and a half and I've been in the company 20 years. The herb business is growing at an amazing rate. As the previous speaker said the Australian public are grossing herbs and spices amazingly, with blends and single herbs and in everything we can actually bring in from overseas there's a market, and it changes, like at the moment there's a big push on Cajun spices which includes two or three dried herbs. Of course, this doesn't help you at all. Our suppliers overseas are third world countries basically, and they are sourcing the herbs which are natively grown in those countries. The communications with these countries however is excellent and is worldwide and the world is narrowing all the time, with facsimiles and E-mail and Internets, it's very easy to get the information, to have your finger on the pricing at all times. The Australian market is extremely competitive, in the last two or three years, my company have invested a lot of money in quality assurance, microbiological assurance and everything it possible can, but we get no extra money for it and all the better manufacturers are demanding it as a matter of course. If you don't keep up with it, you're left behind and I know two or three companies in this industry that are left behind and they'll go and quote on a contract, ex amount of dried herbs or vegetables, and they will not get the business because they haven't put the back up in and the quality assurance.

What I'd like to go through now, briefly, is where the herbs come from and where I import them from. There's two prime sources that I use and that is Turkey and Egypt. From Turkey we buy oregano where the crop is two thousand tonne of dried oregano per year is produced in Turkey, sage, thyme, rosemary, bay leaves, and also we just have now our blending operation in Ontarla in Turkey which blends herbs to make mixed herbs because you can't blend them here competitively. McCormacks have a joint venture in Turkey with a company called Cotash who are producing maybe half of that one thousand tonne of oregano. So if McCormacks decide tomorrow that they don't want five hundred tonne of oregano, bang - down goes the price. If they decide they want more - up goes the price. So you are at the mercy of the supply and demand situation. The price of dried oregano from Turkey at the moment, the new crops must get out the week after next, and that price will be gazetted, is around, landed in Australia, about \$3.20 per kilo and the unfortunate thing about it is that I pride myself on the quality of oregano I was bringing in from Turkey until my competitors decided to bring in a lower quality so I follow them down and bring in a lower quality. So you can see I'm trying to bring in the best, cleanest herbs from overseas but unfortunately I've got to compete in the market. In Turkey also, the herbs grow wide, so each family up in the hills outside Antare or outside Ismar, the old lady will go out, she'll walk maybe three or four kilometres with a hessian bag pick up a crop of oregano bring back 50 kilos of oregano on the stick and then take it down to Ontarla to a processing factory where she can get probably about two bob for it. It's pretty sad really but that's the way Turkish business is done. There's a little bit of cultivation there but it hasn't been very successful.

Egypt, where it's all cultivated as far as I know, I haven't been to Egypt, but the basil, marjoram, peppermint, spearmint, chamomile, calendula flowers come from Egypt. Again there is a joint venture there with McCormacks distributing huge quantities, dealing with seeds. It's all cultivated in Egypt, to my mind and as far as I know and the quality from Egypt is excellent.

I've got some samples here that I can show you. If you see the samples in a much larger amount like the seed in the shop, you get more indication of what the quality is like. Then you have the renegade like Morocco who decided to grow thyme about 10 years ago and they covered half the country in thyme and dropped the price of thyme by \$1 a kilo. In Spain you've got more of a herb growing for the essential oil industry and a much higher quality, that's because it's a western country. For instance I buy three qualities of rosemary. I buy a rosemary from Turkey, a rosemary from Spain and a rosemary France. The French rosemary is probably \$11 kilo, the Spanish rosemary \$7, the Turkey is a dollar. The quality varies greatly. The same exists with thyme and oregano.

In France there is a huge market for herbs, because it's all fresh, the French don't use dried herbs very much and in Marseilles the herbs come from all over the world and are shipped out again to other countries. There's one company in France called Durrigals who is probably the leading company in the world for fresh and frozen herbs and they export plain frozen herbs around the world. If any of you are travelling to France I'd be very pleased to give you an introduction to Durrigals. I don't import from them because they're too expensive, but it's a very big company.

In the U.S.A. there is a domestic herb growing market there - they call them domestic herbs, because they're grown there, and they're very expensive but exceptional quality. The people like McCormacks and the big spice repackers in America are turning towards the high quality herbs, also in a pre-dried form which is amazing, you think about spearmint worth \$2 kilo when it's freeze dried it's worth \$130 kilo. That's something to think about, but the usage of freeze dried herbs in this country is nearly nil.

Another country that doing an amazing job is Chilli. I think we should look at Chilli as an example of a country who works hard and sees niche markets as very successful. They developed their own strain of oregano which is very fluffy. You look at a Masterfood bottle of oregano, that's Chillian oregano. It's beautiful quality, very expensive, and has got a niche market for it, and it's unaffected by the price of Turkish or Greek oregano.

Who are my customers? My customers are the top two producers and repackers in the country, like McCormacks, Masterfoods, Unifoods, and they're all buying a certain amount of dried - they're all buying dried herbs. That's the upper level, and they're the people that demand from me, all the time, clean herbs, a microbiological guarantee, with ethylene oxide treatment or without, an on-time delivery, and an important thing is that the stuff fits in the bottle. It's got to fit in the bottle, if it doesn't fit in the bottle, it doesn't matter. I think it's very important for these customers, although they'll never admit it, that we need gamma radiation in this country because the ethylene oxide treatment will go out the window soon and all that's left is gamma, there's no other way of doing it. And if the greens would lay down and die for you we could do it and solve the problems and the prices would come down.

The next level of customers I have are the repackers in cellophane in the shops. They are very competitive, we all compete to get that business. Their quality is not microbiological, or anything like that, as long as the herb is clean and looks good in the packet they are happy. And it's mainly an active market and the people who own those companies are Indian people and people like that who actually import a little bit themselves too.

When we sell to a multinational company or a quality assured country we have to supply specification of our herb to them, basically a specification of what they want of me to deliver the goods. I've got to give them a certificate of analysis, and on the certificate of analysis is the colour, the aroma, the taste, the texture, the additives, the foreign material, they have an insect brag with insect fragments specification, the mixture, the volatile oil, the total ash, the ash and soluble ash, the fault index and amazingly enough the water activity. Given the microbiological standards, you've got standard plate count, the E coli, salmonella, chloroform, yeast and mould as permanent sporeforms. Other certain customers want particular things, like, for one company we test every herb and every batch for wisteria and invariably we find wisteria every time, but it's not the bad one, so it's all right.

These are the type of efforts we have to go to sell the humble herb that costs \$2 somewhere and we still only get a very small profit margin for offering the service. If we don't offer it we don't get the business.

In the industry market, - cooking sauces. I think we really should look at that angle. If you get a group together and go and see the people at Unifoods or at Kraft and say that we want to sell you fresh herbs, I'm sure they'd be interested in it. The thing about these major manufacturers is they want to cut down the labour, so if you can actually give them a 25 kilo bag of cut fresh herbs to pour into their spaghetti bolognaise mix they'd be very happy I'd imagine. It's something you should look at.

We at Langdon's are extremely interested in sourcing Australian herbs. And I find, even this morning, that I'm the last one to know if anyone's doing anything. I was very pleased to hear the guy from Tassie who's selling parsley oil. This is a great achievement. We've got spearmint oil and peppermint oil. I was talking to some of the guys last night in the hotel, and they were saying that the frozen and fresh market were exporting 300 tonne I think he said, which is an amazing ability, but we don't seem to channel it in one go to the target market we need to target.

To my knowledge the production of culinary herbs in Australia is quite minimal. I know one guy in Tasmania who's doing parsley, who I compete against, I import Hungarian flat leaf parsley against him and I sell against him. There's a guy up in the Hunter Valley, John Penninger, who's doing a great job and is a marvellous manager, it's his own product's on the shelf, a lot are grown by himself. There's a lemon grass production up near Rockhampton, but they're trying to compete against Guatemala and places like that, there's peppermint, spearmint, but as I think Southern Lights send them in at \$36 kilo I can buy it for like \$2 kilo. If anybody here has got any oregano or any herb they want to sell dried to me, I will try and find a market, but you've got to be reliable. If you're not reliable the whole thing falls apart, because if I'm going to contract to buy a tonne of dried oregano and sell it in the market, I must get that tonne of oregano.

One of the greatest things in Australia is this, coriander seed and it's grown in South Australia, in West Wyalong, and all over central New South Wales, it's a 1000 tonne a year of this we sell and we're competing against Moroccans and Indians and this is great coriander and we sell 1000 tonne a year. It's a bad crop this year so we've not exporting as much as we did, but my company exports 60 tonne to Japan of this stuff. It's a great product and it's competitive, and how these farmers can do it, I don't know.

There is a marvellous success story in New Zealand. There's a company there called Pentitry Farms and they have been dehydrating parsley and tarragon for 4 or 5 years to my knowledge. The import of curly leaf parsley from America into Australia is maybe 30 tonne a year and it's standardised to bulk index, insect frags, microbiological, everything, but this N.Z. company succeeded in selling 20 tonnes to this market in 1996 and that's a real great achievement. To dry parsley in New Zealand and sell it to Australia. I also know they are exporting overseas to other countries, I don't know where, because naturally they're very proud of themselves and don't want to talk to me. Their tarragon's beautiful, it's equal to, if not better, than the French tarragon, blade tarragon which is also a beautiful product.

The other successes in Australia that I know of, which aren't herbs, but then again it's an indication of what can be done if we try hard enough, is mustard seed. In Australia mustard seed is a very good quality, equal to Canadian No. 1, which is the premium grade mustard, all the mustard you eat is Canadian No. 1. Chick peas! I don't know how much it is, but about 100,000 tonne Chick peas we're exporting to Pakistan, Turkey, where they grow the things! We've actually taken the market away from the growers in Turkey and Pakistan. I know herbs are herbs, but seeds, caraway and cumin seed are excellent products and the market is very narrow. I think there's good margin in those two products because especially cumin seed is sometimes short supply.

My suggestion would be to start, and I think Howard Jarvis will tell you, very small and see how you go, see how the plans go. Grow slowly until you feel confident you can supply a product that can suit the requirements of the market here. Also examine closely. As an importer of foods ingredients, I probably spend two hours a week in supermarkets, walking up and down. I get into a lot of trouble for this, people say what are you doing snooping around, but I'm watching people buy things, I'm looking at the herbs and all the food products, you see on the back of the label what's going into this stuff. And I get shocked and surprised all the time about what people are buying and how the herb range is expanding. It's quite hurtful when you see Masterfoods have got a new herb on the shelf and you haven't got anything in it. Why didn't they ask me? I would also suggest as a group that you go and see the people at Masterfoods and McCormacks, they're very receptive people to buying Australian. They want to buy Australian! That would solve a lot of problems for them! And they feel comfortable with it, and they do buy their fresh chilli, jalapino's and things like that, so they're receptive to talking to people, **but you must be reliable, if you're not reliable you die.** With the big multi-nationals, if their production is held up, they'll charge for the time their production's down. It's a very serious sort of business.

There's an organisation in America called ASTA which is the American Spices Trades Association, which has lost a few teeth recently but it's still there and it's a governing body and a help centre for people who want to develop business and to police the importation of herbs and spices into America. This handbook will be in a process of perpetual development. We foresee several years of research and organisation of data to adequately cover the subject matter relating to cleanliness of spices, we're directing the subject primarily to oversee spice processes, but would be quick to admit that many domestic producers will also find value in this handbook.

We believe that better knowledge of the U.S. laws, or Australian laws, their reason for being, causes of contamination, methods of cleaning, conditions of storage, types of contamination and their effect on consumers and ultimately systems for improvement will go a long way in improving the quality and the final net cost of the spice raw materials. Now we have an Australian Spice Traders Association. It's very small, the big people are involved in it, Masterfoods, Burns Philp. So I suggest if you can get together as a group, one of you should come to one of these meetings, as a guest of myself if you like, to hear these people talk.

As far as profit goes, someone said to me outside that I'm an importer and I make a lot of money. Well, I make nothing any more. It's tragic that a thing like turmeric powder where the Indian guy digs it up, boils it, dries it, he takes it on his back to processor who grinds it and put it into a 25 kilo bag with a certificate of analysis, ships it to Australia and the selling price here is \$1 kilo. This is tragic. That turmeric used to be \$3 a kilo but because of the contracting of the market and the communication it's putting so much pressure on prices that there's no profit in it for me. But value-added, maybe, I'm not sure about that. There are shortages from time to time and you've got to be lucky to pick those shortages, get a bit of gossip somewhere, or hear overseas if some crop's being damaged, for instance there's a large flood in China at the moment. Well I immediately get the map out to see what grows in that area to see if I can get whatever grows in that area stored up to put the prices up, to take advantage of it. I'm a commercial person, I've got to make money for the company so my family eats, and that's the way it is.

Approximate tonnage imported last year:

I suppose we've done 30 tonne of oregano, 20 tonne of rosemary, 20 tonne of thyme, sage probably 10 to 15 tonnes. It's all around that area. You've got to allow there's three importers, one's smaller than two of us, and two of us are importing the bulk of it. The other companies are Burns Philp and Waters Trading. The importer statistics aren't very precise, you've got to guess it a bit. The Australian market for herbs I'd image is probably 200-300 tonne of dried herbs. If you take the whole range. Onion and garlic is mammoth, we import about 1000 tonne of dried onion from America, and 500 tonne of dried garlic from America, and there's all the Chinese imports.

Processing:

We've got a grinding and blending operation, we haven't got a herb cleaning facility. There's one herb cleaning facility in the country and that's owned by Burns Philp in Sydney and that's an excellent piece of machinery. To buy one now would be quarter of a million dollars, now it's not worth my while to spend quarter of a million dollars to buy a herb cleaning machine when I'm still not going to make any money out of it, because the customers - there'll be two of us cleaning the herbs - therefore they will play us off against each other. What I endeavour to do is import it as clean as possible from overseas, and the only way I can be assured of that is by visiting the processors overseas and looking at their practices, and as far as I can see, they do the best they can. Things happen, like recently we had a bag of oregano and it had a hard hat in the bag and I met the supplier in America last week and said, "what are you putting hard hats in the bags for?", and what's happening is there's a line where the oregano is coming out of the sifter and guys topping the bag up with a hat and he's gone to have his cup of tea and he's put the hat inside and walked away. The new shifts come and the hat's left in the bag. Things can happen in production. He's now got a piece of wire on the hat so it doesn't go into the bag. We have problems, we grind pepper, pepper's a raw material and in the pepper you get things like, recently, from India we had a jewellery kit in one bag, there were earrings and necklaces. You can't blame the people of origin because they're getting nothing for it, it's up to us to process it. But in general the herb quality is very good. I haven't had enormous problems with material in dried herbs.

HYDROPONICS AND THE IMPORTANCE OF VALUE ADDING

PHILLIP ISLAND HYDROPONICS - Jenni Dixon

My husband and I bought a small acreage in Cowes about four years ago. We thought that would be interesting, it would provide a challenge, it was cheap, it was failing. We thought we'd have more flexible hours, that it would be a job for our children, and I can tell you right here and now that we were wrong on all counts. It was an absolute disaster. The cheap business soon became very expensive because we had to set about tackling the daunting task of redoing all the mistakes that had been made. No wonder it was cheap. The flexible hours were just full time, there was no respite we worked all day every day. Control of the future - there didn't seem to be a future after we'd been there a few months. It was, we thought, a terrible mistake. They say, "give me a big business and in six months I'll turn it into a small business". Well we started off with a small business and in six months we had a fairly large overdraft. We thought also it would be job security for our children. Job security - I can tell you that didn't work either, because the kids didn't have the same vision as we did. Why the hell couldn't they see that it was going to be our nest egg for the future, this was going to be herbs and health and fantastic?

Some of the vision that we had simply was not happening, and that's really how it was. It is a fact that 80% of businesses fail in the first three years of operation. Small Business Victoria, who we have utilised quite a number of times, talk a lot about 80-20. The Eighty-twenty rule relates to the fact that 80% of people fail. They don't plan to fail mind you, they just fail to plan. A cliché you may have heard often, but I can't emphasise strongly enough you need to plan. Planning is the key to many issues in life and I think, for instance a shining example of good planning is this conferences here today.

Herbs. For the last 10 years or so there's been a growing interest in fresh herbs to add flavour. Many recipes include herbs as an ingredient as well as a garnish and that's good. But a \$2m industry which is something I've read somewhere - I don't think so. A small percentage of the consumers weekly grocery shopping - maybe. I think research is a very important part of your planning and certainly we find as suppliers of fresh herbs across the State, for instance sales of culinary herbs are very slow in country areas and we sell some varieties more in some suburbs than others. And these sorts of statistics of course are available for a small price, where you can actually break down what people spend on what goods. If you are an avid herb lover or a dedicated gardener and decide to use this idea of yours, it must be planned and researched like a business. Even if you think it's going to be a hobby, it still must be planned with your costs, where you're going to sell the product and how you're going to get it there.

Planning why - why do you want to go into this business? Why is your product so special? What are the costs? Setting up costs? Goal? What do you hope to achieve out of this? Do you want to provide for your retirement? Do you want to fill in a few spare hours of the day? What is your goal? What is your previous experience? In our case my background is in nursing, so I have virtually no experience in growing or in herbs. My husband's is in farming and machinery, so he had a background of sorts in some primary production, but our experience was not enough for what we did, but we've certainly learned the hard way and a lot along the way. Commitment - I think that's very important. I would understand from the show of hands before, that a lot of you are already doing something else and perhaps you're looking to herbs as your secondary source of income and that may be well and fine. But if it were to be a primary source of income I think your commitment has got to be even greater. Ours certainly was and we could not have survived without huge commitment.

Who is going to buy your herbs? The local hotel? Supermarket? Or is it going to be to a wider area? Is it going to be someone like Ross - are you going to produce a tonnage that he's interested in, that you've got dried and organised, because I think what he's got to say is very real. He has a requirement for plenty of herbs, but, he's not going to pay all that much for them. I certainly wouldn't like to get \$2 kilo for my oregano - dried or not! Who are your opposition? Perhaps today you look at forming some sort of togetherness over this thing and that may be quite good, but even as a group together you'll still have an opposition - who are they? What are they doing? How are they doing it? Who are your staff?

We didn't plan a lot of things really when we started off. Within six months we were happily growing masses of herbs which is how I looked for someone like Ross to see if I could sell just half a tonne of basil. They didn't want to know about this half a tonne, they wanted to know about many tonnes. We were unable to get rid of it. We decided we had to do our own marketing and selling.

Where will you grow this product? Will you just grow it in your garden somewhere? Are you going to do broadacres? Where are you going to get the capital to set up? Or is it not going to cost very much capital, so therefore you don't expect very much return? Or are you going to grow something very special that is very much required that is going to bring you in a lot of money and you won't need to have too much area? Do you need to set up covered areas? We've certainly had to. And where will you distribute to? And when is all this going to happen? You can trial with some plots and some different varieties of herbs, but it all has to be coordinated together, you have to have your labelling done, you have to have market sourced out, your price organised, and you actually have to have herbs to sell.

Constant supply is another issues - this means the buyer doesn't just want basil now while it's in season, they actually want it all year! The final part of your planning is - how you will live? You will need a cash flow to survive and will you be able to increase production if you demand increases? How much can you afford to lose? Micheal Jurba, who's an American business development consultant says, "For the business to grow the person who heads the business must grow themselves. Some of these processes require you to move out of your comfort zone to actually move out from what you're familiar with and be realistic.

Hydroponics - Hydroponics is, of course, the growing of plants without the use of soil. It's not new. The hanging gardens of Babylon and the floating gardens in China were early forms of hydroponics, and that was back in the 17th century. What we do is not new. Hydroponics is a very expensive form of growing, but gives the growers ultimate control over plant development and so, with the addition of certain nutrients or the reduction of others, the plant's requirements may be met. For example, if we added more potassium, we may increase the number of flowers and reduce the incidence of fungus in carnations. An excess of nitrogen in our strawberries may encourage leaf growth and too few fruit trusses. We grow strawberries hydroponically and that is critical to us. No point in having marvellous looking plants if they're not producing the fruit, because that's what it's all about. Hydroponics enables us to do some of those things. Holland, of course, has abandoned all ground growing for the production of food stuffs because of the contamination of soil due to the build up of sprays and insecticides through the years.

Some hydroponic enthusiasts see this as the way of growing for the future right here in Australia. I don't know that to be the case, but some people are very keen about it. Hydroponics is clean and quick and our produce may not be subject to quarantine because we don't have any soil involved. There are disadvantages though - not the least of which is the expense, there are also many inlets and outlets, at which at any given time one can be blocked or leaking. There's the pumps and the tubing and the water quality and the water quantity and all this must be monitored. The requirements of individual species of plants needs to be known before a grower can gain full advantage of a hydroponic system. For example, Rosemary cuttings may propagate readily in a hydroponics environment but the mature plant requires dry conditions in a sunny well drained position and so does much better when planted into soil.

Marketing your product - we prefer to do our own marketing and selling. Some people have an agent sell for them - it can work quite well because both parties may agree on a fixed price regardless of the season, and that would mean they would have a guaranteed income (as long as there's a guaranteed supplier).

To be successful you have to gain credibility and to gain credibility one of several things must happen. One is that you consistently grow outstanding product and, I think the old eye test is everything. As a consumer, if it doesn't look good I tend not to buy it. So you have to grow outstanding product. Forget the stuff that's not looking very good, that becomes part of your waste and should be calculated in your costs. The other way to gain credibility is to have that consistent supply of the product all the time. Every herb, has an out-of-season time, doesn't matter. Sage is out of season at the moment, basil's out of season, doesn't matter - you've still got to have it.

The last topic that I'd like to cover is value adding. Value adding is a sort of a buzz word of the last year or two, but it's a very important word, and you might look at what this can do for you. Sometimes a product that you're presently growing or manufacturing can be extended and altered to appeal to another market. Usually a product is developed to appeal to a niche market. Put simply, a niche market is the small segment of people who can and will pay more for what they're buying. Identify what these people want and set out providing it. No good that you've grown a mass of opal basil if nobody really wants it. Maybe they want opal basil as part of a salad sandwich or salad - so you add value and turn it into something a little bit interesting. Likewise, you may be able to command more for your product because it is fresher, you get it there a day earlier, or a caterer may offer more up-market lunches which will appeal to a certain group.

Next is product image. The image you create of your product or the alteration of your packaging can mean you've added value to your initial product. We grow strawberries and with the excess of fruit we make jam, so instead of just waste, the waste is turned into profit. If you present your product in a different manner, it may appeal to a different group of consumers.

MEDICINAL HERB USES
GIPPSLAND NATUROPATHIC AND CHIROPRACTIC CENTRE - Rose Cornelissen-Mock

Rose graduated from the Southern School of Natural Therapy's in Melbourne and she's also studied herbal medicine in the U.K. and in India, and has post graduate herbal qualifications. On graduating Rose worked for Blackmore's Practitioner Department conducting advisory work, seminars, community education workshops and clinical work. Rose also lectured on herbal medicine on a full time basis to students at the Southern School of Natural Therapy's as part of their Herbal Medicine Department.

I'm going to give you a general overview on the way we approach herbal management, that is naturopaths. Historically speaking, plant and herb medicine is as ancient as man or beast so you're dealing here with a very old kind of medicine. A simple herb such as a dandelion which we use today for the liver, was equally familiar to the Greeks and the Chinese three thousand years ago.

Countries such as Australia and New Zealand have a distinct advantage because, (1) we have space, (2) we actually have some technology to speak of, and thirdly we can grow clean herbs. What I mean by clean herbs are herbs that are going to have minimum residual of pesticides and herbicides. That's quite important from our perspective as herbal practitioners. Basically herbal medicine is associated with whole health care and what we're doing is including the whole mind, body, environment. We trying not to just treat a disease with a set of chemicals, we're trying not to just treat a disease with a certain psychological basis, what we're trying to do is look at a holistic treatment. What we want to do as part of that holistic treatment is obviously have unadulterated herbs.

As you start growing your herbs what you're going to find is that you are going to have to develop a relationship with your herbs. You might only be growing one herb or two or three herbs, but you really do need to know what the herb is for, a little bit about the pharmacology, what happens down the line and what you're actually growing the herbs for.

As practitioners, using herbs, we usually use fluid extracts, and that's not something that is available in retail very much. Retail tends to be very big on the dried herbs and the tablets and so forth because they are easy to take, because they're measured dosages and because of the packaging. We use fluid extracts and when we say fluid extracts what actually happens is the dried herb or the fresh herb depending on the type of herb it is, actually goes through an extraction process. With the extraction process and alcohol the herb is broken down into what we call a concentrate. The fluid extract is basically one part herb to one part alcohol. What you're finding there is a very concentrated herbal extract. What we're concentrating as well is the residues that you might have added to get this herb when you're growing it, so of course we need you want to keep it as clean as possible.

We may also use tinctures which is working with a more diluted sort of herb and that's where you have one part herb and five parts alcohol. Quite often with herbs, such as Golden Seal for instance, it's very difficult to give in a concentrated dose, so you use a more diluted sort of dose. We use Pockroot or *Phytolacca decandra* in a dosage one in 10, so it's one part herb to 10 parts alcohol, or even one in 20 because the dosage is so minute you're literally looking at a few drops - 5mls in a 200ml bottle of a mix.

We buy herbs that are either organically grown, trade or wild crafted. Trade is where there's been some measures taken in terms of pest control, and wild crafted is where the herb has actually been gathered in the wild. There are some very important wild crafting guidelines - I actually have a book on wild crafting which was published by the Rocky Mountain Coalition Guild they lay down certain criteria that you have to follow when you are wild crafting, so that you don't wipe out the herb.

If we choose not to use an alcoholic base fluid extract then we can actually go for the dried herb. Some herbalist are very particular about using dried herbs and they would use nothing but dried herbs in bags of teas and so forth. You might also choose to use a dried herb because you can't use alcohol - this may be if you are working with a child, or someone who's a "P" plate driver (not allowed any blood alcohol), or someone who's an alcoholic, or has religious beliefs that preclude alcohol. Another consideration is that alcohol isn't necessarily a good medium for certain types of herbs, especially herbs that are very high in tannins or mucilage content.

Other types of preparations we might use are elixirs, linctus which are basically more for throat and mucus membranes, mulls which are based on honey so they have an antibiotic effect as well as being very soothing. Externally, we work with things like poultices, baths, douches, suppositories, pessaries, and creams. As you can see, the herb that you're producing, as a grower, is producing ultimately a huge range of products that we can use. Some herbalists do grow their own herbs, but generally speaking, because of TGA or therapeutic goods administration regulations, we can sell to our patients but can't sell outside the clinic. We make herbal prescriptions that may involve different herbs. It's quite unlikely to work with a single herb. Diseases are so complicated these days that we often work with at least four or five herbs and in Chinese prescriptions with 10 or even 20 herbs. We work accordingly to the BHP dose, which is the British Herbal Pharmacopoeia dose. The BHP dose is quite strict because, while we say our herbs are safe, herbs are safe if they're used in the right context. Herbs can be very dangerous if they're used excessively - you can basically drink your standard tea and get quite ill if you overdo that too.

Herbalists generally classify herbs according to systems. Herbs for the respiratory system (wet conditions) are herbs that like wet conditions for growing too. When you are deciding what herbs to grow, look at what the herb's for, because often that can indicate what type of growing conditions you need. Standard respiratory herbs are eyebright (I'm naming the herbs that are very popular amongst most of the herbalists in Australia), yarrow, elder, or peppermint and, there are of course, many more. Cardiovascular or circulatory herbs include hawthorn berries, ginger, or ginseng.

For the liver, herbs include St Mary's thistle, or milk thistle (*Silybum marrianum*), not to be confused with Blessed Thistle or *Cnicus benedictus*. To avoid confusion make sure you know the Latin name for the herb. St Mary's thistle is an exceptional herb, I call it the Queen of all liver herbs, because it's a liver regenerator and it restores the liver. What it actually does is promotes regeneration of the liver cells and it also blocks entry of toxins into the liver and helps it detoxify. People with problems such as hepatitis or someone who's had an overloaded or an overburdened liver because of drug taking (be it prescribed drugs or otherwise) would do every well on a herb like this. A lot of people are starting to see St Mary's thistle as the reconditioner.

Dandelion is another one. Classic dandelion. Because there's a lot of bitters and carbohydrates in Dandelion root, you need to actually harvest it in autumn rather than in spring, because that's when the roots have their most potent bitter potential. We, as herbalists, use dandelion because of its bitter action. If you are interested in the dandelion leaf, then you're looking more at a liver function and also a kidney aspect too. It's very high in potassium, so we often use this particular herb in conjunction with cardiovascular medicines (for fluid and potassium loss). If we're making up a mix it might have the hawthorn berries, the lime blossom and so forth to help normalise and stabilise blood pressure, then we might even add the dandelion leaf and, if they're a nervous type, add valerian. When looking at kidney herbs the most important thing is that they are best taken as a dried herb or a fresh herb, they're not as good in a fluid extract. I find that if people have inflammatory kidney conditions, the best thing you can do is actually give them a tea to take rather than a fluid extract, because once again, we have a collection of soothing type plants here that lose their effectiveness once they get combined with alcohol.

The famous immune herb is Echinacea, this is quite brilliant in terms of its blood cleansing ability, it has an interferon type action and it's very anti-inflammatory and it's very good for poor immune response. Echinacea is especially good for those acute conditions or things that flare up suddenly, like flu's or coughs and colds. It's not as good for chronic conditions - there's a new herb coming through now that I think will be potentially extremely good, called *Astragalus membranaceus* which is especially good for chronic immune deficiency problems. We also get some *Hypericum perforatum*, which is actually a weed and was sprayed when human's came here and wiped out. I regularly go out and try and harvest some unadulterated St John Wort flowers to make St John Wort oil because it's especially good for nerve ending damage, externally and internally it has an amazing anti-viral activity. It's actually being used in AIDS trials - I think it's Echinacea, Ginseng and St Johns Wort. Nervous system herbs include Scullcap, Valerian and St Johns Wort.

Herbs actually have an action on the body. Some herbs might have several properties and can be used on several systems of which one may be predominant. Bitters, for example are herbs that you use very much short term because they work on the taste buds and must taste bitter. If you can't taste the bitterness they're as good as useless, because you have to taste the bitterness in your mouth, you have to have the response with the vagus nerve which then send messages to the stomach, promotes digestion to get the liver going and actually starts balancing and promoting digestion. Often when people are given medicines, they say "what foul herb did you give me?" all I can say is, if it was really bitter, it sounds like your liver needed it, because after a while they start to enjoy the herb, it's not as bitter and that usually tells me that things are starting to clean up a bit.

Malts of herbs which are soothing are marshmallow root. Diuretic's, which are more like your kidney type herbs, promote the kidney to flush out urine and so forth. Astringent herbs are very high in tannin and the way they work is they actually create a situation where there is a precipitation of proteins, so this creates a coating on the mucus membranes. When you take things that are high in tannins you'll find that there's a lovely coating on the digestive tract right down through to the mouth.

Some uses overlap with general pharmacy or orthodox pharmacy as we know it. For example, saponins are found in anti-inflammatory herbs such as wild yam or golden seal and in mainstream pharmacy they are used to produce cortisone's. Plants don't actually do that, but what they do is they set up a system where the body has a cortisone-like reaction. Medicine as we know it today is mimicking what plants already do. The other thing is; plants never come as a simple drug. They come as, sometimes, 50 different types of constituents to back up the main constituents, so what we're getting is a herb that's not going to have side effects on the body if used in reasonable dosage. Valerian may sedate some people, there is probably 5 or 10% that might get headaches or feel sedated by valerian and what this means is that it decreases sensitivity without actually interfering with your coordination or activity. What it does is that it stops what you're taking in necessarily but not necessarily blocking out what you need to respond to, so you can be on pretty heavy doses of valerian which is actually a tranquilliser and still be quite happily able to drive. There's a lot of benefits from herbs like that. Peppermint is also a relaxant but that works more as a visceral relaxant with things like colic.

Lemon balm is other one, it's a fantastic central nervous system relaxant. That's a herb that I would personally like to see grown more because it's such an amazingly sensitive herb, it's great for hysterics, it's wonderful. Hops is another one, the only time you don't use hops is if there's depression involved, and of course Passion flower might be used. Passion flower is especially good for people who need to get back to sleep, shift workers, or mothers who wake up with babies and can't get back to sleep, whereas valerian is more for the person whose mind's whirling around and they can't sleep. Skullcap seems to be a very popular one in this area. It's probably the most important nervous system herb you can grow. It not only restores the nervous system, but it's excellent for damping down excited emotions and that actually works via the central nervous system as well.

Herbal medicine is on the increase, it has a huge potential market. Prescribed herbal medicine is definitely a growth industry and the current medical beliefs are shifting as disease becomes more chronic and responsive to other medicines. Currently many Asian and some European countries such as Germany are including herbal medicine in their health care system. What we're going to see is a growth as the public demand increases and available health care changes. We're going to be pretty much moving into a user-pays health care system as time goes by. In terms of what I'm representing here it's kind of like your oyster at the moment. It really is quite a massive industry. In terms of my visions, naturopathic medicine will become an intricate part of health care.

LOGISTICS OF FARMING HERBS

SOUTHERN LIGHT HERBS - Mike Brouwer

Our farm is certified level A with BFA. We grow 60 different herbs, batch sizes to season would be anything from 5 kilos up to over 100 kilo's for other herbs. So we grow the herbs in volumes where we know the market is. If there is a big market for something down the line, like peppermint, we grow a lot of it, even though it may be hard to grow. If there is a small demand for other herbs, even though they are easier to grow, we don't grow them, a lot of them anyway. This is something that's a bit difficult for you as you're starting to know what are important herbs. It's only difficult if you don't ask questions, if every manufacturer could tell you exactly what they want and in what volume, they'd probably tell you the prices. You then have to try and work out whether it's going to be profitable for you as a grower to grow them.

I'll just tell you about Southern Light Herbs. Southern Light Herbs is certified as a processor. We buy from 40 established growers, all certified organic, or some of them aren't certified, but in the process of achieving certification. Some of those 40 growers would have less than an acre. Some of our lemon grass suppliers, have got about five acres and we buy bits and pieces from other people who grow enormous amounts and we're just a little customer to them. We have two casual employees, and a sales representative who's now in Melbourne, who is going to help us work out some marketing there. We package the fully processed herb that the growers supply us. So you as a grower will bring me the product and all I have to do is open your 10 kilo bag, put it in my little package, or my bulk bags, and sell it. That's what I like to think I do. I think there's only one out of our 40 growers that I don't have to further process. I am having to process it because people aren't doing it right yet, and that slows me down terribly and isn't what I want to do.

I am actually building a processing plant so that I will give the people the option - if they want to supply me less finished product, I'll pay them less and then I'll process it. Obviously I hope that you will value add your product and sell me a finished product, so I don't need to do all that work. We market and distribute to an incredibly diverse range. We sell to mainly wholefood stores and organic shops, a lot to health food shops, to herbalists and naturopaths direct (they make up our biggest customer base as far as numbers, but they don't buy a lot), and increasingly, to pharmacies. An increasing area for us is restaurants, cafes, and bakeries. They're starting to realise that if you use decent herbs you actually have food that tastes good, rather than the imported sub-standard herb that we're used to. Although we're pulling out of it, we also do have contracts that we sell to manufacturers. It's not the market we deal in and we figure that there will be other people doing that fairly shortly - it is probably one of the very good markets for a big cross-section of growers. It's a different market that I deal through now and it's something I'll talk about later. By industry standards we're a small buyer, but we pay the best prices for the very best herb.

I'll very quickly skip over the way I see the industry as a grower, and that's what I consider myself. Just to give you an idea and I think what's been said today echoes that I'm not far off the track. Currently, and it's probably the stated reason for this conference, there seems to be this confusion. There shouldn't be any confusion in any grower's mind. Today, you've got Kim Fletcher selling her book, it's her resource guide, it has every single player in the industry in it. Just open it up and it will show you what the industry is. You can ring any of the people you want to get information from, they're all in the book. I can't understand why people say it's hard to get information.

The world dried herb industry has been around for hundreds of years, as we've heard this morning. There is established trade, established infrastructure, established prices, essentially this means, we've got a floor price. It's not a good one, and I don't think I can ever compete on the prices they import at and in fact I know none of us could until we scale up tremendously specialist capital intensive operations, but basically we can sell any herbs for \$3 to \$10. We've heard \$1.20 this morning for oregano and basil, woeful, but again they still need to be cleaned so maybe it'll take it back up to \$3 kilo if you clean it. You can sell coarsely processed herb to medicinal manufacturers, you'll hear a couple are around \$8 to \$12 kilo for dried herbs and the other market is ours where you're selling to Southern Light Herbs. There are other people who buy a similar quality to us and similar products at \$20 to \$24, that's for leaf crops, flower crops are more. We pay \$50 kilo for our chamomile flowers. I import some chamomile from Egypt certified organic at \$16.90, but I'd much prefer to pay \$50 for chamomile. You can get it a lot cheaper from Australia, but I haven't seen the product.

What I'm saying, with respect, is that, to the ostrich and emu industry, which I is what I'm going to have a go at now, is that they are dealing in an over-priced breeders market where I don't think any of the growers actually know what the product is they're going to grow or produce. They've got no idea, because I've talked to chefs and they think ostrich and emu meat is horrid. They're got these birds running around the paddocks and the meat's not going to be worth \$10 kilo, and they're paying \$20,000. We don't have that with herbs, we've got a commercial industry - known product - known prices.. So it's reality -you just need to slot in, find where you want to slot in and do it.

I've been in the industry for 8 years. When I first started there was just a few people doing their own thing, and doing it quite well, most of them value adding and direct selling. The last few years there's been a lot more growers experimenting, mainly with manufacturer sales and there's been heaps of talk, fluff and hot air and whenever someone would say I'm growing 10 acres, you'd say "send me a sample", you'd never see anything. It's been very unorganised, very undirected, and, as I said, little produce. The last 12 months there's been an enormous explosion in interest. VEDA is just one of seven current associations in Victoria and Tasmania, all with 50 members or so. Now when these groups start getting their act together and actually coordinating - getting some product, we'll see an industry start. I still say we're two years away, hopefully it'll happen quicker.

So where will all this go? I think there's going to be a huge shake down. In my time, of all the people who have come to our workshops, probably about 5% go on. So if we have room for 200 would-be growers, maybe 10 of you actually will become growers. So I think we're going to have this shake down and there's all these people who'll go away and say it wasn't for me, it's no good, but there'll be committed people and they will prove that it will work. And because there's all these groups, there's enough committed people and enough moral support amongst the groups that I think you will get people starting to stick to the industry and starting to see good things happen.

There will be an oversupply of herbs, everyone's worried and they want fixed contracts from me. However, it just doesn't work that way. You've got to prove yourself as a growers before I even think about writing anything on paper for you. You've got to come to me with some product, and say, "This is what I can grow. I've grown 10 kilo's of peppermint this year and I know it's really easily, I'm going to produce 100 next year. Can you give me a contract?" Well I probably will. But you if you come with a 50 gram bag and say, "Ah look it was hard producing this 50 grams", I'm not going to talk to you. Every other industry, as farmers, have got their act together. In the herb industry at this stage no one's got their act together. I hear there are people, but I still don't see it. So let's get our acts together - work hard.

To get a good industry going there's got to be infrastructure. We need to get an infrastructure that can cope with giving growers good growing data and technical advice, management advice, irrigation advice, fertilisation, and composting, and harvesting data. How are you going to do it? How are you going to handle the crop? How are you going to get it dried? How are you going to get it processed? All of those things I can teach you on a small scale and I know how to do it on a large scale, but there are not machines you can go and buy, that's all going to have to be taught to you. Currently, there is no good supply of commercial plant propagation material, there's nurseries, and hopefully they're all starting to gear up, but you cannot get good supplies of propagation material. People are trying but they tend to be disappointing their growers and supplying them when they should have been in the ground in spring, they're getting theirs in at Christmas time and it's just not right. The growers need access to good quantities of good quality propagation material. So there's another market there for you if you want to be a good plant propagator.

Processing and quality control standards are non existent. There are certainly people working on it. Storage and handling procedures - none written, most people don't understand it. I've seen many people's herbs that probably might have been dry when they finished it - they stick it in a drum, probably left in the rain or goodness knows how, but they bring it to me a month later and they open the drum and it's off. There's got to be simple systems that people understand on how to store herbs.

The reason I went into dried herbs was I worked in a restaurant. We had a chef who loved herbs and garnish herbs, \$150 a week we spent just on garnishing plates, and it was actually my job to do cold larder and garnishing. And that's what got me into thinking about growing herbs. \$150 a week! Just one restaurant! Ten restaurant's is all I need, I'll just grow herbs for 10 restaurants and I'll be happy, but then I started looking at marketing fresh herbs, and I saw a problem. Dried herbs are particularly easy to market because you can store them for years so if there's no market this year, all things being equal, next year there probably will be a market. So it's very handy. But you need to store it well, you need to know how to store it and handle the product.

There's no efficient marketing and sales systems for herbs yet. There's certainly a lot of people buying but there needs to be a system set up and export links need to start being forged. Australians don't use herbs medicinally, dried herbs that is. They love tinctures and extracts, because they can probably hold their nose and slug it, because if it doesn't taste good - it shouldn't taste good. But a lot of the herbs taste awful, herb teas as well. So that's why I think herbalists don't prescribe them, because don't actually go home and use them. I think that's why manufacturers certainly are going into capsules and those sort of things, because people actually do take them, they just down them and they don't think about it. So, yes, Australia's domestic market is a little different, but overseas there is a good market for organic herb into Europe, because they can't grow real organic any more over there, the background pollution is terrible. So, they can look to Australia, and there are niche markets and if all of us grew as herbs and we combined all our herbs, we could supply it into a niche market and not over supply it. There are big markets that are niche markets so hopefully we can start seeing people establish good exporter links. We sell into Hong Kong, we sell into Bangkok, but that's not to dealers, that's direct to customers who use our herbs - naturopathic and herbalists centres that are using it now. That's really nice, it's amazing, we've not canvassed them, they have rung and asked for herbs to be sent and when we do they just love it and that's great. That's a pat on the back for all of our growers.

I think there's some really good opportunities in the herb industry. You've got to focus as a person about what you're going to be happy with. It's kind of forget about the whole industry and the whole world. Think about yourself and how much you need to sell to make a dollar for you and then start working maybe in a cooperative sense for sure, but keep your blinkers on for a while.

So what is a Herb Farmer? I classified three scales of herb farming:

Small scale 0 - 2 acres - it's labour intensive - it's self employment and you'd be growing a varied lot of crops, very low capital requirements to set and run, talking maybe \$20,000 to set up, \$4,000 for irrigation, \$10,000 for a decent shed with some processing equipment and a couple of thousand for a drier and some other equipment. It's really not that much of an effort in business terms. You'll be producing high quality and value adding. That's what I call a Small Scale Herb Farm.

People say, "I'm going to grow one acre of herbs", and they own two acres and I say, "no, think again". I'll show you what a one acre herb farm would look like. To support one acre of herbs you need first of all 4 acres of top quality pasture to cut for compost, a wood knot, shrubs and trees, bird and bee attracting, really good sustainable farm, bio-diversity. It is a life style choice and these are the sort of things that are the most important, but for one acre of herbs you need space to drive the tractor around, you need a drying and processing shed, and a house, and you've probably got chooks, and milking goats and things like that. Because you've chosen - that's what you want to do in your life and you enjoy it. That's what a one acre herb farm is. You need a good 10 acre farm. Not a cruddy one that's on soil like basketball stadium floors. Some people say they want to grow herbs and have read that they don't need good soil. That's not true, you need the best soil, you will be intensively farming that ground and digging root crops in winter, so you need a soil that can cope with getting dug in winter. In Maldon we irrigate very four or five days through summer, so you need a soil that can cope with getting irrigated, and the next day you can be in there weeding and harvesting. You can't have a clay soil that stays muddy for a week after irrigation. On the far side, sandy soils, you'd need to water every day just to keep the water up to some herbs. So you need good ground because you're going to be farming intensively.

The next one is a medium scale herb farm - 2 to 10 acres. I guess a lot of people are trying to get to that. They look at the returns and say that's what I need to do. I haven't seen any successful ones in my sort of field of growing at this stage. Certainly there's lots and lots of examples of medium to large successful farms, including echinacea production - Blackmore's have just brought 15 tonne of echinacea root from Howard Rubin this year. That must be hundreds of acres of echinacea being grown successfully. On big scale and I've seen on Land Line and all those shows, they show you big scale and they're doing it well. Garlic, ginger, coriander, it's pretty easy. The reason it's done so well is that it's just like growing wheat. We just put a header through it, there's no labour involved, and that's why farmers over there can do it well. Our equipment can be adapted to products like that, and they can be grown on a big scale and grown well. I think Australia's almost a net exporter of herbs, we keeping hearing this 95% of our herbs are imported but if you start looking at coriander there's an enormous volume, probably not in dollar terms, but in actual weight. Australia exports a lot of herb, mainly in the form of coriander seed. Licorice - there's a 100 hectare farm up in Finley. There's peppermint oil production up in north east of Victoria. Down in Tassie there's all sorts of essential oil production. Lavender growers are doing it on a big scale, lemon grass growers are doing it on a big scale. There are lots of big scale herb farms doing well. There's 300 hundred medicinal herbs and there's no reason why all of those can't be grown, or that you can't specialise and grow one herb. So basically all the markets are there, you've just got to stop procrastinating and go for it.

The medium farm - you'll need to employ staff to help in the peak times - planting, harvesting, processing. You'll need to specialise in crop types. You'll need to start mechanising rather than using all hand tools and hundred year old technology. You'll need to improve innovate, especially on the handling, drying and processing and start putting money into it - big time.

Then there's the larger scale, you're going to become a specialist grower, you're going to be capital intensive, you're going to be specialist - everything I hate about farming! But there'll people who want to do that and will be successful, it's just not where I am as a person. Agricultural marketing has a lot of problems there.

Market opportunities. Fresh herbs - you can direct sell, retail, direct selling to restaurants and you can sell to manufacturers. Flowers - there's a great market for cut flowers and herbs. There's some beautiful herbs - echinacea that's one of the nicest flowers, it has an excellent shelf life as a cut flower, but there's so many other herbs that are also good. And dried, a lot of herbs dry well. Cottage industries - there's a lot of people out there making sauces and relishes and if you don't want to do it yourself, they would love to have direct supply from a farm. Now these things develop when there's product available. You have to grow the product and show people you have it and they will develop products. I have a cabinet this high with products I want to develop, but I can't because I haven't got the herb and I only want to buy Australian certified herb, so that's really cuts down my supply base. There's lots of people around that want to develop a business and you just need to have some raw material for them. Sauces and relishes - just look at the supermarkets at the incredible amount, all the gift stores - just look at gift stores, airport point of sales, incredible - people want Australian products. They want to take away an Australian pesto or something. Cosmetics - soap, perfumes, there's just an endless thing that we use constantly that herbs can go into, develop your own. There are other people doing it, Julique - a company in South Australia, they're doing really well. They grow quite a bit of herbs themselves. So there's all these opportunities, they may not be crashing through that door trying to buy your herb, but you need to go out and find them.

Tourism education is an enormous thing. Education is part of our business, and we've made a conscience decision to make it part because I see there's such a lack of information, lack of people wanting to tell other people, that I figure, well I enjoy it so I'll tell people how to grow herbs. Tourism - having people come and stay on your herb farm, give them herbal scones for breakfast, have them bath in herbal soap and they'll come back every year to your bed and breakfast or your farm. They are opportunities that you can do. Nurseries - there's retail nursery sales, wholesale plants, or sell direct to landscaping companies. They are all there, one part of all those opportunities and I can say that in the herbal teas - if you care to break down herbal teas you can look at about 10 different markets to sell to. We sell to all this broad range, we could focus on any single one of those and specialise in filling that particular area and doing it really successfully, but we find it's a lot of fun doing a lot of different things. There's an incredible amount of opportunity, just be a bit innovative and go out and do it.

Now you've got all these things you choose from, what will make you successful? The most important one is consistent hard work, anyone that's been to our place will testify that it looks like hard work and it is. You need to have a long term commitment, what's long term? - it probably took us five years to get profitable, maybe three or four years before you start thinking you know what you're doing and feeling comfortable. Achieve high yields, you'll do no good as a grower unless you achieve high yields. Produce miserable crops, miserable yields, you'll flop. You have to be innovative, a scavenger of technology.

Time management skills. Growing herbs the way I do, I've got 60 herbs. I suggest as a new grower you should have at least 10 or 20. This becomes a time management exercise where you have to know when is the optimal time for every herb to be harvested and while you are harvesting your thyme today - next week it'll be peppermint - the week after it might be your sage and your rosemary and a few other things. Then you have to know you're going to be processing this at that time. It all becomes a bit of a management game and you have to know when is the optimum time to harvest each of the herbs. You need a calendar of operations and stick to it. You don't worry about building your drying screen in the middle of the growing season, you worry about your herbs. You build your drying shed in the middle of winter and you start to understand when the peak periods of labour are and when you are meant to be doing things.

Reasons for failure:

- Research and planning.
- Weed control - used to be the biggest reason why I'd see people fail, so I can't stress enough that you need to understand weed control. Weed control can give you total losses.
- Irrigation management - if you don't do it right you're going to have reduction in yield.

- Correct processing and storage - you can sell at a premium if you process it correctly. If you process it poorly you'll get a poor price. And make sure it's dry before you try and store it. That's pretty easy, all you need to know is all the stalks snap, but you're storing a whole plant, and the leaf also needs to be crunchy - grab a handful it should crunch. Same with flowers, they all need to crunch. If you're got a calendula flower and you break it, it should snap and not be a bit doughy.

Basic business plan:

Before you start getting into herb growing, set your objectives. Why do you want to do this? Is it a dream? Is it reality? You need to know that you want to make \$50,000 a year, go on holidays for three weeks in that year, you would want to drive a Volvo and live in a 20 square home. So there's your big objective. So how am I going to afford all that? So then you need to set down and work out your specific considerations, how you're going to do that. Set your big goals. What is life? Once you're decided, you need to do a review of who you are, your business history - how good are you at running a business - what successes have you had - what products have you to sell and what products are you going to produce? You need to review what you can do - your management skills, horticultural skills and business skills. Your financial base - list what you have to put into the business and your assets.

SWOT analysis is an acronym for Strengths, Weaknesses, Opportunities and Threats. It is particularly useful to do that. Just four pages, write down all your personal strengths, then all your weaknesses. So that your personal side of a SWOT analysis, and then there's the industry side - what opportunities exist? Look at all the opportunities that exist in the industry and then look at all the threats in your industry. Obviously, all weaknesses can become strengths and all threats can become opportunities, if you know they're there. Look within yourself, look at the industry and then know where you're headed from there. Specific considerations are the actual strategies of how you're going to achieve your goals. Know what your product is. If you're going to produce herbal tea, know what herb tea looks like for a start and how you're going to go about producing that product. Who are you going to sell to, what are they buying? Get samples from them, if they don't send them, badger them, get them to send them. What I'd prefer is that you actually have a go at it on a trial basis and then send me or any of the others a little sample and they'll tell you pretty soon if it looks awful or looks great. You need to know what you're doing and you need to actually write down how you're going to produce that crop.

Specific considerations are personal management - what time are you going to give to this industry? If you're running a farm and you're got beef cattle, or sheep, or cropping, or other horticulture, all of that has already used up time. You've got to now when exactly the herb operation can take up your time. Does it fit into your current farm? The only way to do that is to do a business plan, know exactly when you're going to need to do it as a manager. You need to be able to write down when exactly you're going to be working, when you're going to be harvesting, how long it's going to take you, what are the costs of harvesting, how am I going to wash my roots, it's root time at the moment. How am I going to lift them? How am I going to wash them? How am I going to cut them and dry them? You need to write all that down and put figures to them all.

The last thing in the business plan is your budgets, your cash flow analysis. You need to know what your cash flow is for the next 12 months and you also need a less detailed one for the next five years. Some of you will have to go out and find money to finance this and unless you have a business plan, the bank's not going to look at you.

Getting started and what site you choose:

The soil you choose has to be the best soil you can have on your property. If you're looking at buying a property the soil I'd look for is a well drained, well structured soil, pH neutral to acidic, anywhere between 5 and 7 is fine. The farm must have access to good water. You will probably need to irrigate, certainly in a drought. We use about a megalitre in an area, we have a 22 inch rainfall in Maldon, so that's a fair bit of water. Every four days I'm putting on an inch with the overhead. Something similar with the drippers- haven't worked it out exactly. The climate is going to effect what herbs your grow and how you go about running your operation. In Maldon we have really dry hot summers so we can dry all of our herbs naturally, so there's no cost of running a drier and you actually get a better product. Obviously different herbs suit different climates. You can look at micro-climates on your farm, you're got frosty areas or shaded areas. Wind can be an issue - it may be to the detriment of your herbs, so maybe sheltered belts are important for you. It's something you'll have to work out.

Humidity - obviously it can be a problem in summer if you're trying to dry your herbs without artificial heat. Pollution - the market for herbs is organic, and you may as well get certified to start with. Avoid busy roadsides, don't grow near a highway, or next to a neighbour who uses sprays, don't grow herbs in urban areas, and don't use contaminated water. Think about all those things.

You must know the previous history of the ground you're growing in, what is the weed burden, soil residues of chemicals or fertility status, maybe it's had constant cropping and it's just basically biologically dead because it's been overworked. Know what's happened in the past on your site and once you're got all that information, hopefully you're starting with something really precious and you're going to grow good crops.

Once you've got a good site, then choose the correct herb to grow and the correct variety. I'm really fussy on what varieties I buy, so the Black Mitcham peppermint I buy - there's 30 or 40 different varieties of Black Mitcham. I only buy the one variety because I know it tastes really good as a herbal tea and all things being equal, if everyone grew the same variety of Black Mitcham I'll have a similar product to put onto the shelf. There'll always be differences if it's grown in Bairnsdale compared to Maldon, it's flavour, and sometimes I might not even buy it from Bairnsdale if I don't like the flavour. I won't buy any peppermint from coastal NSW people - it's got no flavour. You read that you can only grow good peppermint in areas that have cool nights, hot days, we'll buy peppermint from all over Victoria and we're very happy with most of the peppermints we buy. Grow trials, and understand what a trial means, grow at least 10 or 20 different herbs to actually give yourself an idea of what is doing well. It's no good growing two or three herbs and then trying to choose one of those because you might have chosen the wrong two or three herbs to start with. If you've got a broad range you can focus if you want. I started with 40 and now I've got 60. Make a serious start.

In the herb industry people aren't serious. Grow organic. Get certified. The premiums are there for certification to cover the cost. It costs \$600 to get certified and it's a pain in the neck, it takes a long time, but it's worthwhile. You get information, you get support, and you get that marketing edge and, an analogy I make is - all the players in the AFL, they all know the rules of the game, but if you don't have an umpire you get a pretty messy, horrid, game and that's why you need a certification body. Everybody might think they know what organics mean, but you need to have an umpire. So you have to get certified if you want the organic industry to continue. A weed control strategy - you must have a good one. I won't go into it. Equipment - totally depends on your scale. I cannot make any generalisation other than to start you will need a small rotary hoe, hand hose, wheel hose, general gardening tools, to grow an acre of herbs.

When you start knowing what you're doing, then look at specialist equipment. There's nothing there specifically designed for herb growers yet, they are implements you need to buy and then adapt them. Row cropping is designed for tractors, we are small scale, it's all designed for hand implements, so you may as well grow things in blocks. It looks better, it works better, it's more ergonomic on a person. Raised beds are better if you've got drainage problems. You need to do all your own hand weeding with row cropping, unless you've got high-tech equipment on the back of tractors. If you go on the flat, like we do, we're got a wheel hose or hand hose, it's all very much easier to use.

You're going to have to understand how to set up your irrigation, or get an irrigation expert to design it for you. Tell them you're growing tomatoes, because if you say herbs they freeze up and don't know what they're talking about. Tomatoes are probably the closest thing they can comprehend. Remember you're growing perennial herbs/plants. Vegetables growers have a different mentality - goes in the ground - it's out two months later - in/out, in/out. Six crops a year in maybe the same ground. With herbs, they might be in there for 10 years, so your mentality has to completely change the design, the whole system, because the things going to be in there for a long time. Your irrigation system has to last.

Composting - I could speak for three days on composting. It's a very easy thing to do, kids know about composting. Composting on any scale, there are systems that are easy. Compost is the best way to feed your herbs. When I plant a herb in the ground it goes into a shovel of compost, I don't have to think about nutrient for the next two years. If it's a local perennial herb then we side dress with compost. It suits herbs, it suits the way herbs produce their flavour because the herb has to actively seek their nutrients rather than water soluble fertilisers which the plant can't choose what it has, but it all gets sucked up and the plant can't stop it - and you get an unbalanced wrongly flavoured herb. Composting is the way for herbs.

There are five basic herb types. You only need to know how to grow one of each type and then you basically use the same skills on all the other 300 herbs in that type. So you've got annuals and bi-annuals, which basically grow from seed each year and they do their life cycle in one season and they all look the same. You grow basil, you grow German chamomile from seed, all the same way, you plant them the same way and they're out of the ground and you're doing something again. It's basically all very simple. Crown herbs - another set of herbs which all have similar characteristics on harvesting, not particularly harvesting, but in the way you divide them and propagating. Spreading herbs, like all the mints, they all grow under the ground, you propagation from rhizomes, whether it's spearmint, peppermint, or oregano. To a point, you could call skullcap a spreading herb, they have rhizomes.

There's woody perennials, things like rosemary and sage. If you grow rosemary you can grow sage, you can grow rue, they're woody perennials. You can grow it from cuttings, you can grow it from seed if you like, but basically they all have similar cultural requirements. And then there's herb trees and again it's all similar.

Producing dried herbs is not a retirement project. Conversion to organics - can I cope? Learning new skills - can I cope? Can I cope with the certification costs? Do I understand allowable inputs? Do I like the ideology? What is a trial plot? Why are you doing this trial plot? It's not to see if the herb will grow, it's to see if you know how to manage that herb to grow. To see if you know how to harvest it and how to handle it once you've finished harvesting. The herb will grow. I'm growing herbs because they're easy to grow. I couldn't grow vegetables, I'm not smart enough, but I can grow herbs. What you need to learn is how you're going to manage that herb. You can't do it if you're growing one metre - has to be 20 metres. Get serious. Weed control options you need to understand. Choice of crops, you need to understand choices and understand why you're making the choices. It will either open or close the market you can sell to. Where are you going to get propagation? Where are you going to get your equipment? How are you going to design your farm and your garden? That's the most fun part, I mean, it is just great fun. An acre of this here, and an acre of that there, I'll put a raised hill here, and a palm tree there, and you just enjoy designing it, but it has to be ergonomic and it has to work and you must be able to get your tractor in, you must be able to get your wheelbarrow in, or trailer in. You need to think about all the things you need to do in there and how many times a year you do them in designing it. Once you've got a 20 metre row of sage in the ground you don't want to dig it up - it's going to be there for 10 years, so you want to design it correctly. That's where the sage is going to stay. So just play around with design. Irrigation design. Get experts to do it. Composting - learn about composting, how you're going to do it. Learn how to harvest, how to dry and how to process, how to storage. Put all that together and produce the calendar of operations and stick to that management plan that's within your calendar of operation. A really important document.

MEDICINAL HERBS - (MANUFACTURER)
HOBLER- MANN - Warren Morey

I'm a professional horticulturist who has training in horticulture from Burnley Horticultural College. I've done some post graduate work at the University of Minnesota in the USA, and I'm currently doing a Herbal Diploma in Melbourne. At the same time I've spent much of my time working on farms in cut flower production, vineyards and orchards and wholesale nurseries. I'm very familiar with what kind of hard work has to be put into growing a crop.

Hobler-Mann, although it's an important part of the herbal market, it is still a very small company. Initially it was run by Lisa Hobler and Bob Mann, who were up in southern Queensland. The business was under quite a bit of pressure, they'd had drought in Queensland for a number of years and 12 months ago it was sold to Dr Ian Brighthope who owns Nutricare and Nutrisearch. Those companies are manufacturers of vitamins, minerals, herbal tablets, and fibre formula's. Brand names probably aren't familiar to you because they are professional only products. We sell them through doctors, herbalists, naturopaths, and to a limited degree, pharmacies who supply doctor's prescriptions for doctors who don't want to carry the product. Dr Ian Brighthope himself is a leader in natural medicine. He's currently the president of the Australian College of Natural Environment Medicine, he runs quite a few clinics in Melbourne, the Bio-Centre, Detox Centre and is the author of a number of books. He also has a diploma in agriculture, where we've actually picked up a lot of his nutrition knowledge, so that gives him some understanding of what growers have to put up with when they're out there.

Hobler-Mann, we call ourselves consultants and marketers of medicinal herbs. Hobler-Mann assists people into the industry of growing medicinal herbs. When people first approach us we supply them with a general information package which gives a run down of Hobler-Mann and our role in the industry. We supply them with what we call a Grower Detail Form, a herb list of what the current market prices are, a seed list with prices attached and seeds per gram, and our conditions of supply which are very similar to those throughout the industry.

The next step in our process is that the grower must return that grower detail form to me so that I can make a recommendation of what crops would best suit your property. We're looking for the location of your property, size of your property, water availability, machinery and the type of machinery you have available (tractors etc), we're after your soil type and as much detail as you can provide about your soil (that one often gets people quite stuck), we're happy to get a soil type, like sandy loam, clay loam, a depth of top soil, a pH, but if you have more in depth soil tests we'd be more than happy to look at them. From this information I make a recommendation for you to plant a trial block. We generally recommend three crops on a quarter of an acre, you can plant more if you like, but we're after some sort of minimum quantity so that we can market that for you. That's our general recommendation - three crops on a quarter of an acre. The recommendation is part of a seed order and the order is placed through Hobler-Mann, but is actually supplied by Pleasants Herb Seeds in Queensland, and Andrew Pleasants is an agent of Hobler-Mann who's been associated with us for quite a while. The seed comes with basic growing information, on germination and planting. At this point we also ask the grower to sign a grower's agreement with our company that gives us first option to market the crop and, as we're already pointed out, that's not a guarantee, it's not a contract, it's just an agreement that gives us first option in return for the information we've given you to help start you. We feel that we've at least limited the number of plants that you've trialed, because we've taken the information you've provided and narrowed it down from our knowledge of what other growers have grown and my own horticultural knowledge. Getting back to the growers agreement, we feel that the assurance for the growers comes from the fact that we don't charge for any of those recommendations, we do charge for the seed, so Hobler-Mann won't make any money until it actually sells your crop and we charge a 15% marketing commission on the sale of your crop.

Hobler-Mann also continues to support the growers with a regular newsletter which comes out every two to three months and if you call up the office or fax I can give you information over the phone. If you require more detailed consultancy either on your farm or at Hobler-Mann's office, there's a fee attached. We find that the grower can handle a small planting initially and they learn what's involved in growing medicinal herbs and can assess the project for its viability, obviously that's the reason for doing a trial planting - initial costs are kept to a minimum by starting with a quarter of an acre. You will have to spend money on seed, fertiliser, ground preparation, irrigation and labour.

When it comes to the marketing of our crops, all of our herbal crops, except the fresh ones, are sold on sample. So the presentation of that sample to us is probably the most critical part of your operation. We need some information with that sample when it's sent into us, all we need is about 100 grams in a snap sealed sandwich bag, with your name, address and phone number - I still get samples with no identification at all. I need to know what the herb is, the date it was harvested, its organic status, and the amount available. Hobler-Mann sends these samples to manufacturers throughout Australia and overseas and we come back to the grower with a market and a price and we arrange for transport. Hobler-Mann also has the capacity to take smaller quantities of growers who are still in their trial period and consolidate them to supply larger orders. We do have a minimum quantity and that is 50 kilograms of dried material in general, though occasionally we are desperate for certain things and will take smaller amounts.

There is, in my opinion, little opportunity for growers to value add to medicinal herbs. People who are herbalists or naturopaths have the ability to produce medicine themselves for their patients only, otherwise the TGA regulates the manufacturing of herbal medicines to the extent where it would be nearly impossible for any of you to actually produce a medicine and make a claim for it. You can get away with making teas and making pharmaceutical products, but if you want to produce a truly medicinal products it's beyond most of you.

Hobler-Mann encourages growers to become organically certified if possible. The issues of organics are often clouded for people who are going into medicinal herb growing. The questions I get are always the same. People want to know who certifies me, where we've used chemicals or fertilisers can we become organic after using those, does the whole farm have to be organic, how do I add nutrients, control pests and diseases and weeds and how much will it cost? There's basically six bodies who will certify you, three of them are major bodies really, and they are NASAA - the National Association for Sustainable Agriculture in Australia, BFA - Biological Farmers of Australia, and Organic Herb Growers of Australia. The three others are the Biodynamic Agricultural Association of Australia, Organic Vignerons of Australia (who concentrate on organic vineyards) and the Tasmanian Organic Producers. These organic bodies can give you all the requirements, and even if you're not considering getting certified immediately, it's good to become an association member which will cost you about \$40. You'll get a regular newsletter and start educating yourself to what is required for organics and some of the tricks of the trade.

Substitute fertilisers are quite easy, there's quite a few things you can use, lime and gypsum for one is considered organic, there's Dynamic Lifter, fish fertilisers, Nutrakelp and King kelp sea products, rock minerals, compost and manures and green crops. Substitute pest and disease control includes plant rotations, resistant varieties and species, oils, pyrethrums, and some simple fungicides like copper sulphate and biological control with other insects, and finally substitute weed control involves tillage, mulches, flame weeders, solarisation, and green crops. Most farms can become organic even if they have had a commercial background, the only real exception are properties contaminated with DDT or Dieldrin. I'd probably give up herb growing straight away if you're got those sort of contaminations on your property. Most other chemicals will disappear over time and all of the associations have a conversion period where you can convert from traditional farming to an organic system. Sometimes it's not possible to convert all operations on your farm and there is what's called "farming in parallel" where part of your property, with sufficient buffer zones, can be certified. Cost of the certification is \$600 - \$700. I generally recommend that people put it off for a year while they do their trials and look at getting certified in the second year. Why be certified? - we really had that pointed out to us, but basically, it's a specialised market that you will be selling to, there's a strong requirement for medicinal herbs. It may be to the point where you cannot even sell your product without organic certification or at least subjecting your product to a chemical test.

Crops selection: Most herbs are undemanding and will tolerate many conditions, the trick is that if they thrive, your production is going to increase. Things that most of them desire is warmth, sun or part sun, drainage and water during summer. When you're trying to decide what to grow look around in your area at what's already growing, it often gives you a hint, it could be in someone's garden, it could be growing wild, but definitely have a look around your local area, have a look at what other people are growing. When you are trying to decide what to grow you may want to make some decisions for me as in what type of crops you want to grow. Many people are not interested in growing root crops, they want something they can just take the aerial parts off. So you've got to look at what your harvesting of plant is - we want an idea whether you want to grow root crops, aerial parts, flowers, fruits, etc. These determine the labour input and the machinery requirements. Look at what the market for the herb is, the use of the herb. Things that sell well in the market place are: sedatives - skull cap, valerian, passiflora; tonics - ginseng, vervain, licorice, ginkgo; immune herbs - echinacea and golden seal; arthritis - feverfew, ginger; circulatory herbs - ginkgo again, hawthorn berries, arrow; and blood cleansing - dock, berdoc, dandelion and clover.

When you're looking at the yield of your plant, one important thing to remember is that at least 75% will be lost at drying. As a general guide to people starting out we give them a guide of four tonnes of fresh material per acre. That can be substantially increased with expertise, but when you're first starting off we think it's a good rule and that will generally dry down to about one tonne of dried material. You actually get a lower yield for root crops, but they do dry down better, they may have a dry-down ratio of somewhere around one to three.

Look at the price of what your product can achieve. Do not choose your crop by price alone. Generally when you look at the list we supply, you'll see products, *Echinacea angustifolia* is a typical example where it's market price is anywhere from \$50 - \$100 a kilogram, but it's a three year crop, it's a root crop, it has a very small root system and it only grows on certain properties at very sensitive to wet cold winters and so it's reasonable that that plant has a high cost. Another example would be golden seal where straight away you'll have problems of getting planting material and then it's an extremely difficult plant to grow. Hobler-Mann has a full price guide which is available from our office.

The next thing is harvesting. The individual herbs have some specific requirements, but there are a few general rules to harvesting. The plant part that is harvested is the most important thing. We talk about aerial parts and generally they include things like feverfew or skull cap and these are all harvested in the early flowering period at about 10 to 20% flower, maybe a little bit more for skull cap. At this point the plants yield is at it's maximum and the active ingredients will be at its most potent. They're pushing up nutrients to produce seed and we want to grab that plant before it actually puts that energy into seed and drops it on the ground. Do not cut the plants too low, remember to leave about 4 or 5cms above the ground for the plant to regenerate and you also won't pick up too much trash off the ground. Woody plants like Rosemary, you'll obviously be only taking a third to a half of the plant, you won't be taking right back like some of the other perennial plants. Root plants generally are harvested in winter. You wait for the plant to dry back, all the nutrients, all the active ingredients are concentrated in the roots, you lift the plant at that stage, clean it thoroughly and dry it. Many of the roots are quite woody and thick and cannot dry without some sort of processing, processing that will split the roots or cut the roots into portions that can dry out. Finally, flowers, are harvested when they're in full bloom, and seeds when they're at maturity.

The processes of drying - we've already discussed, but it definitely causes a few problems for the unexperienced herb grower. It's important that the harvested herb be removed from the field promptly to avoid any possibility of it heating up beginning to compost. We're dealing with a living plant at that stage and bacteria love to take advantage of that. Harvest only what you're drying facility can handle in any one day, and I've had a great example down in this area actually, one of my growers of skull cap contacted an agent down here who has a drying facility and said I'll be down on Saturday with my herb crop to dry and this grower had been to the property and seen how big the drying facility was and they said, "You're just bringing down a ute aren't you?", and they said, "Yeah, yeah, yeah." On the Saturday they turned up, not only with their ute full, but a large tandem trailer also piled up, and all of that product wouldn't fit into their drying facility. And you've obviously got now a big pile of compost just waiting to happen. It was over the Christmas period, it could have caused quite a drama, we were lucky that the people from Snowy River Seeds down at Orbost came to our rescue and they made their drying facilities available and the crop was saved. It's perfect example of harvesting to the capacity of your drier.

Herbs should be kept cool and shaded if being transported to drying facilities, root crops are less critical if they're held a bit longer and handled and stored correctly. Handling the herb is best done while it is fresh, once the herb is wilted it's easily bruised, all that bruising will result in a darkened herb which will decrease the quality of the product. Sunlight, particularly direct sunlight, will quickly fade your herb. It's important that any drying shed be relatively dark, so that you get the best colour in your crop. Maximum temperature of your drying facility should not exceed 45 degrees and for some products that may even be too high and you're looking at about 35 degrees for herbs with volatile oils, such as sage, lemon balm, mints, those type of things where essential oils could evaporate. High temperatures can also affect some of the active ingredients in the crop. There is no such thing as drying the crop too fast, as long as these maximum temperatures are not exceeded. There are several ways to speed up the drying, one is to increase the ambient temperature to the maximum allowed, so up to 45 degrees. This should be carefully controlled with a thermostat, there should be no combustion in the drying chamber, if you can get a system like that because obviously you are dealing with a product that is itself very flammable so it's great if you can transfer the heat through hot water pipes or something of that sort. The other way is to decrease humidity, by increasing temperature you automatically get a relative drop in humidity thus increasing the ability of the air to remove water from the crop. Removing water from a crop is not always a simple process, plants have a natural attraction for water and definitely a reluctance to give it up. This attraction of moisture also means that the plants have an ability, at night, if they're are in a natural drying system to reabsorb water, so they might have been dry that afternoon, if you go in there late that night or early the next morning they'll have actually picked up water again.

Some high tech drying chambers work almost exclusively by removing moisture from the air. These systems are called dehumidifier type dryers and are relatively expensive. And, finally, the other way to increase your drying is with air flow. To dry the herb properly you need good air flow, the moisture that has been removed from the plant has to be removed from the drying chamber. So you're looking at things like exhaust fans, and circulatory fans to get things moving, good racking so you get a good air flow through your crop, making sure you're crop's not placed too thickly so that you can at least see light through the crop so that you get good air flow and good removal of moisture away from the plant.

When is a herb dried? Definitely this year it was the thing that caused us the most problems when it came to quality. It's a real problem for inexperienced growers, they just dry the herb superficially, but they're not taking account of the moisture deep within the plant inside the stems, inside woodier material. Leaves are dry when they crackle, just fall apart in your hands. Stems a nice crack. If you place something into storage when it's moist it will definitely go mouldy, there's not doubt about it and it's the most important thing. There is another method, you do need accurate scales to measure the moisture of your herb. If you take 100 grams of your product and accurately weigh it, you can place it in a microwave and heat it and evaporate it to almost zero percent moisture, then if you reweigh it and it's more than 90 grams well then you know that you had less than the 10% moisture that you should dry your herbs down to. If it dried down to 85% grams you know you had 15% moisture and that it has to stay in there for a longer period. Once the herb is assessed as dry it should be immediately cut and packed into moisture proof, either poly-lined woven bags or into poly-lined boxes or into drums, any water tight vessel. Not only can the herb reabsorb moisture on the racks, once you've cut it, it can also reabsorb moisture, so you have to protect your crop from that.

Preparation of your dried material - once the herb is dried it has to be coarsely chopped and, from my point of view I'm talking about a medicinal crop for a manufacturer, other manufacturers may be looking for specific cuts for their market. There should not be an excess of fine material. For this reason we find that it's better to use something that cuts your herb rather than smashes it to pieces. Straight away we're looking at a chaff cutter, it cuts into uniform lengths, a mulcher on the other hand smashes the herb into un-uniform pieces - a lot of fine material and some larger pieces. In the preparation of herb medicines alcohol is added to this coarse material and the alcohol acts as a solvent and extracts active ingredients from the crops and then the alcohol is drained away and filtered to become a herbal tenure. Excessive fine material will make that mixture become a cake mix and it's difficult to remove the alcohol. When the crop is dried and cut it should be packed into bags and stored correctly. It has to be storage in a place where it's going to get wet, rats and mice aren't going to attack it, it's going to be out of direct sunlight. Once you're done all this work of producing a crop, harvesting it, drying it, preparing it, don't just throw it in the shed in the back corner, look after it because you've done all the work now and you only have to sell it.

The conditions of supply - Hobler-Mann's requirements don't vary that much from most people in the industry and for that reason we must have some so that we can market to a wide range of customers. We need a sample and we need that sample to be accepted and it's important that your sample be representative of your crop, it's no use customising a beautiful 100 grams if you can't supply the same lot in the minimum 50 kilograms. Each sample must pass thin layer chromatography identification to make sure it's the right plant, so you're got to make sure there's no contamination with other plant material and each sample that you supply to me will be given it's own batch number from Hobler-Mann so that we can identify it. Each crop is given a certificate of identity with a botanical identity, batch number, and we'll supply that batch number, and we need a declaration from you that it has no extraneous material or at least within our limits of 1%. We like the product to be organically grown so we like your organic certificate and if you haven't got that we'd like a statutory declaration that it has been grown free of artificial chemicals. The herb must be dry to below 10% so that it will store adequately and it must be packed in the way that I've stated so that it doesn't reabsorb moisture. We'll look after transport details on an individual basis.

MEDICINAL HERB (BUYER)
PHARMACEUTICAL PLANT COMPANY - Howard Jarvis

We have spend as a company a great time and effort and money in educating herb farmers in the last three years. In that time I've seen some tremendous changes, I've seen some huge growth areas and I've seen some areas that have actually shrunk. The customers are constantly changing, it's the public that are enforcing these changes, they are a fickle group of people to deal with and the herbal industry is very volatile. What's popular one month may often be illegal the next month. It's interesting to see in the Weekly Times this week that three hemp crops out of seven failed. I didn't think that was possible, but there you are. Your customer base and your outlets for your herbs will keep changing. It's still a very difficult exercise to find out the accurate figures of the industry. We as a company tend to rely on other suppliers, importers, and as many companies who are willing to share the information of what they're doing and what's going on as far as tonnes. The Australian Bureau of Statistics will classify everything as herbs, whether it's oregano, arrow, medicinal herbs, all sorts of things, so you can't rely on those figures. The good news is the customer base is expanding with at least one in four and, I now believe, one in three, of the nutrient of the public seeing naturopaths who do use herbal medicines. We've see tremendous explosions in the herbal tea market. If you go down to the local supermarket you'll see the shelf space is increasing all the time. We have actively been involved in one of those companies called the Koala Tea Company who sold in Coles in Woolworths and you'll see more and more of those products keep happening. We would like to turn around those import and export figures, but it is a challenge to do so.

The economy of scale comes into any type of farming. There you will see some comparisons of different crops, and while it's true to say that it doesn't cost five times as much to grow 100 acres as 20, you could substitute any figures you like there from current markets whether it's peas, carrots, beans, wool, etc., and you'll see what the figures are. But I suggest you do these kind of exercises before you start. It doesn't cost 20 times as much to farm 20 acres as it does one acre, but for the size and the scale of your operation you need to be aware of those costs. We have as a company approximately 250 suppliers at the moment and I think by January we'll probably have room for 20 more, after that I believe the Australian market will be totally satisfied with medicinal herbs. We've already seen surpluses, we've seen gluts, we've seen brokers encouraging farmers to grow things without having a real market to sell them, we've seen cheap imports arrive and I can't speak any more clearly on this matter than I am now. I repeat - I think we have room for 20 more growers. I'm constantly surprised by representatives who turn up at the door saying I represent 40 growers that we've never heard of. The important part of being a herb grower is that you must do your marketing first and have a sale for every crop you grow before it is in the ground. With all due respect, and I have been a grower myself for many years, so I know how hard it can be, the easy part of herb farming is the growing of it, the hard part is the selling. Even though I'm saying the local market is just about satisfied (there will probably be surpluses probably March next year of many crops), the overseas market is continuing to expand.

If we look at this region as a group of growers who have other competitor within Australia, there are many growing groups who are getting better and better organised. We as a company intend to continue to share what technology we find, improve systems, etc. Recently we worked very closely with the Northern Met College at Parkville, they have a TAFE course there which I believe is bringing out the best educated herb farmers in the world. They are taught things like thin layer chromatography, and they are taught commercial broadacre herb farming techniques.

Anyone that's buying packets of seeds and raising seedlings, will be very quickly passed by better organised growers. The only way we think you can continue to compete and make a living is to use nurseries where you can buy bulk seedlings, use machinery for planting, etc. We have an arrangement with a professional nursery who has something like four acres of hot house material, fully automated nursery with one man running it, who can produce seedlings by the thousands at very competitive cost. We approached this nursery and we said to them that that's not enough. It's one thing to get good cheap seedlings, but we want you to plant them as well. This is probably the first season we'll try this arrangement and if it's a success we will bow out of that and you can deal with these people direct. All it will mean is a little bit of work on your part that you'll need to prepare the ground, you'll need to know what you're going to grow and you'll need approximately the numbers of plants you'll need, the spacings etc. The idea is that for \$150 a thousand this nursery comes to your farm and plants seedlings, healthy, ready to go and saves you a lot of back breaking work.

The seed trays are loaded into the machine, travelling across clean ground, we have used it up to two inches thick of mushroom compost and that seems to go very well, but as a service this is a nursery that's prepared to spend approximately \$15,000 on a planter that will come to your place and sow direct into your farm.

This I believe is the way of the future. The only way you can compete with Egyptian pickers who are selling chamomile at \$6 a kilo is to use your inventiveness to improve our efficiency. While the volume increase in herbs is going up, the luxury of \$10 a kilo for herbs in Australia will not continue for much longer because the market is demanding much more for less. We honour our obligations with the growers that we've had for the last three years who are constantly improve and becoming more efficient, the yields are increasing and some of them are going from five to ten acres which is a huge increase, most of them on average are yielding about nine tonnes to the hectare. But this is your first season and you have some real competitors out there.

So now you've planted it and we have to look at how we're going to harvest it. We've had many conversations, we've sent lots of samples overseas. There's a couple of things that constantly show up. Everybody says they love our herbs, every says they like the quality, the colour. Australian organic herbs have a very big future, but when you're dealing with, say, an American company who is used to buying traditionally from third world countries they are not willing to increase the price to pay for a better quality, because they are producing a product and that product has a cost, whether it's capsules, tablets, extracts, tinctures, powders, cosmetics. So selling Australian organic herbs at \$10 kilo by the tonnes is not possible. At \$5 it's a going concern. We've done some very serious costing on this and we find that about nine tonnes to the hectares is a good yield, at \$10 a kilo that's a very good living, but \$5 a kilo is what you'll be offered by overseas buyers in the next six to 12 months. The bad news is that at \$3 a kilo you're breaking even.

So there will be some crops that you'll decide not to grow because the Egyptians or the Indonesians will be able do it better. And that's where smart planning comes in. This machine could be the answer (incidentally these kind of machines are also built locally, built in Warragul and are exported to America). What I'd like you to note is the two Mexicans who are driving this, the one at the front is checking the horizontal cutter bar to make sure it's not jamming and everything's going smoothly, behind that is a huge vacuum cleaner which sucks all your cut material up. It goes across the conveyor belt into a slope and drops over the back into bags which are then taken to the drying shed. This is not a motorised machine, it actually runs in wheel tracks inside a hydroponic operation and is pushed by hand. I'd be suggesting we motorised this with something like a three horse power motor and we just have one person that can drive it and that's all that needed. We have such a machine being trialed at the moment. The Northern Metropolitan College of TAFE is probably the first to purchase such a machine in Australia and those farmers that are producing at that stage we'll probably invite to a field day and you can all have a look at it, kick it's tyres and then say whether it needs to be improved or changed. Something like that will cost you \$27,000. However, shared amongst your group of growers in one district that might be a real proposition. The Californians are great producers of culinary herbs, this particular machine harvests something like four tonnes of basil a day, oregano, tarragon and a lot of others which are only ever dried. I'm excited that it's built in Warragul and exported. The big version of this machine is called a "Tea Harvester" which will harvest 10 tonnes and will travel 15 kilometres a hour across the paddock. All we need to do is swap it from crop to crop. What I see here is only those farmers who have done extremely well, who have big financiers behind them or are working as a cooperative group, who will be able to afford this kind of machine.

As a company we'll stick to what we're good at, which is making herbal products. We don't intend to be a commodity trader, we do not have surpluses of herbs. We often get an order 12 months before we need it. We only ask our growers to grow exactly what we need even though they're free agents and are able to sell their herbs anywhere else. At \$10 kilo or \$12 kilo we will take up to 200 kilos, some crops we'll take up to 5 tonnes, but we don't put down our usage figures because we don't know from year to year what they'll be. I can tell you our business has increased something like 300 percent every year for the last three years and our demand for herbs has probably increased 700 percent, but even now I don't know what I will need between now and Christmas. We plan conservatively, we work out our figures, we often double them or triple them and we still run short come Christmas, but I can tell you, if you're going to try and export these herbs we'll pay a very different price per tonne.

You can contact our company to obtain our herb list. I will give you the prices, buying conditions, and all those things if you contact us. We often post out about a four page information sheet on what's needed. If an importer like Ross Brownbill is bringing chamomile into this country by the tonne and selling it to me (because I do buy some imported herbs) at \$6 a kilo, he's put on approximately one dollar a kilo, he's bought it for \$5 a kilo. Locally grown chamomile up to 200 kilos at a time will fetch \$15 a kilo, but when I'm buying a tonne I'm only paying \$10 a kilo, because at that I can justify it. If I could export it at \$5 a tonne I could sell ten times as much. The problem we have at the moment is that nobody's supplying anything like one to two tonnes of any of these herbs, but we do have enquires from overseas for them. One American company just recently asked us for 100 tonnes of one crop!

I've sent them a half kilo sample and they think it's terrific, but they will not deal with us until I have 100 tonnes. So we're in the middle of that very early stage of learning to crawl, we have a fair way to go before we walk, let alone run.

At present, we need 110 different medicinal herbs. I have a very simple system, I usually allow two good growers to grow each herb. I also need to know what all of you are planning to grow so that we do not have a huge glut on the market of all being valerian growers, or echinacea growers. It's a bit of a joke with us and our growers that the minute you see an article in the Weekly Times on a crop you stop growing it, and that's very true. When your neighbours start asking you what echinacea is it's time to change crops. Echinacea agustofolia is a viable proposition. Echinacea purpurea I wouldn't even trial it if I were you. We're constantly hearing people ringing us who we've never heard of saying, I've got five tonnes of this, or a broker hasn't been able to take off our hands what they said they could, I've got a tonne of this, or two tonne of that. It's a bit late talking to us then, because we've organised this 12 months ago.

The commercial operation - sell your herbs on the samples that you already have before you put any seeds in the ground. Organise purchase orders, contracts, fix your price nine months in advance and delivery top quality stuff - according to your buyer's specifications. You may need a pesticide analysis or an organic certificate, but check out your customer first before you plant anything.

ESSENTIAL OILS : WORLD MARKETS AND OPPORTUNITIES ESSENTIAL OILS OF TASMANIA (EOT) - Witold Petruszewicz

INTRODUCTION

Essential Oils have been associated with Tasmanian horticultural production since the introduction of lavender by the Denny family in the 1920's. The Dennys made an early and important contribution to the understanding of distillation principles and practices, and introduced the research community to the fragrance industry. Another industry which has been associated with the flavour and beverage industry for some 150 years is the hop industry. The present burgeoning industry in essential oils developed out of research which was being undertaken for the hop industry of Tasmania. Many of the principles behind the technology of production, extraction and marketing of this product have parallels with those essential oils. Such principles relate to the pathways by which the essential oils are produced and stored within the plant in question, the low volume, high value nature of these oils relative to the parent material, and the very specialised markets and uses for such oils and extracts.

THE COMPANY

EOT was formed in the early 1980's to commercialise the research that was being conducted at the University of Tasmania (Uni) since the early 1970's. This research was due in part to the early efforts of a small number of innovative farmers to diversify their agricultural operations. Peppermint was the first crop attempted by farmers in the south of the State, a privately owned small scale pot still being used for the actual distillation. The commercial production of mint on a small scale provided the University with the ideal environment in which to stage a number of successive field trials, the results of which were soon published in the appropriate scientific journals. These results still underpin our understanding of the environmental influences affecting peppermint oil production and quality.

Buoyed by overwhelmingly positive reactions from international buyers the University commissioned a high pressure mobile distillation unit which provided the distillation capacity for an ever increasing area of peppermint. As interest in other crops grew parsley and fennel were translated to commercial production and larger scale static distillation units were established. Crops which required much longer lead times to commercialisation such as boronia and blackcurrant, did not significantly impact on the industry till the late 1980's, however, the kudos generated in the international community as a result of these innovative products and production systems was immeasurable. It is interesting and pertinent to note that of the current range of crops cultivated for oils and extracts, the majority were identified by the University of Tasmania in the mid 70's as potential contributors to a Tasmanian essential oil industry. This assessment was further supported by a comprehensive consultants review of essential oil markets and products commissioned by the Tasmanian State Government Development Authority in 1978.

Incorporated 1996

Authorised Capital \$10,000,000

Initial Shareholders:

- Natural Plant Extracts Co-operative
 - > growers/production
- University of Tasmania
 - > research and development
- Government Development Agency
 - > marketing and finance.

EOT was registered as a business name in 1980 and was incorporated as a private company in April 1986. EOT has an authorised capital of \$10m.

It was formed with three equal shareholders being the Growers, who are represented through a co-operative Natural Plant Extracts Co-operative, the Tasmanian Development Authority and the University of Tasmania. Today the company has six full-time employees and a number of harvest, distillation, transport, etc sub contractors.

The company has 10 commercial oil and extract products in its current marketing range, which are: fennel, peppermint, spearmint, parsley, dill, lavender, blackcurrant bud, boronia, Tasmania lanceolata (native pepper), and anethole ex fennel. The company has in the past grown crops of caraway, chamomile and small quantities of clary sage.

ESSENTIAL OILS AND EXTRACTS

Essential Oils are volatile products obtained from natural raw plant materials by distillation, usually with water or steam or, as in the case of citrus fruits, by a mechanical process (expression). They are distinct from the fixed or glyceride vegetable oils that can be expressed from the seeds of some plants such as canola. Essential oils can occur in all parts of plants and different oils may be derived from the same plant at different times of the year. This has a major impact on the quality of final oil therefore a thorough understanding of the metabolic pathways that lead to the production of essential oils within a particular plant is of great benefit to the essential oil producer. Essential oils are known to have been crudely distilled at least as long ago as 2500 years.

By the second half of the 16th century, AD, oils were commonly distilled from plants such as juniper, rosemary and lavender, and from spices such as clove, mace, nutmeg, anise and cinnamon. The development of solvent extraction techniques (using petroleum based solvents) in the 1880's gave rise to a further group of plant extracts, known as *concretes* and *absolutes*. These are often considered under the category of essential oils although their production is somewhat different.

Concretes are odorous concentrates obtained from fresh plant material of low resinous content by extraction with a volatile non-aqueous solvent, followed by the removal of the solvent by evaporation at moderate temperatures and under partial vacuum. Concretes are usually waxy solids.

Absolutes are highly concentrated materials, obtained from concretes by repeated extraction with ethanol, followed by chilling of the extract (to precipitate waxes and other non-odorous matter), filtration or centrifugation of the remaining alcoholic solution, and finally removal of most of the alcohol by evaporation at moderate temperatures and under partial vacuum. Absolutes are usually liquids and entirely soluble in alcohol, thereby representing a value-adding step from the original concrete. The level of technology and capital investment is necessarily higher for the production of solvent extracts than for true essential oils and one is dealing with a much smaller (although more valuable) market segment.

USES OF ESSENTIAL OILS

Essential oils have a wide range of uses. They are used as:

- i) **Natural flavourings** in products such as soups, sauces, dairy foods, processed meats, beverages, animal foodstuffs, tobacco and oral care products (toothpaste, mouthwash, etc).
- ii) **Fragrances** in products such as perfumes (fine fragrances), cosmetics, shampoos, air fresheners, toilet cleaners, etc.
- iii) **Therapeutic, or pharmaceutical agents** incorporated into products with some purported therapeutic properties, eg: tea tree oil products.
- iv) **Industrial ingredients** in products such as paint, industrial oil fuels and solvents.
- v) **Aromatherapy** a very small but growing market segment with niche opportunities.

Many essential oils have multiple uses across a number of product categories. In addition, although most essential oils are able to be utilised in their crude form, many are further re-processed or fractionated thus adding a further element of diversification.

SYNTHETIC ALTERNATIVES

The early 20th century saw advances within the field of organic chemistry. This gave rise to a wide array of cheap synthetic aromatic and flavouring materials which offered flavour and fragrance scientists new opportunities, but also put downward pressure on the value of many essential oils and natural isolates. Nowadays the skilful blending of essential oils and synthetic chemicals forms the basis of the fragrance and flavour industries broadening both product range and application due to lower price and increased availability. Although this is positive from a manufacturers and consumers point of view, it places extra pressure upon natural essential oils. On the one hand, producers are seeking to maintain, through price increases, the real value of their products in the face of general inflation. On the other hand, financial controllers of the major processing and compounding houses are compelling their perfumers and flavour technicians to hold down or even to reduce the cost of their formulations, thereby obliging them to use the now abundantly available and cheaper ingredients of synthetic origin.

The cost rises of fuel oil and petrochemicals during the last 25 years has greatly added to the cost of producing essential oils. Although the prices of synthetic aromatic materials have also been affected it would appear that the main burden of the rise in crude oil prices has fallen on products other than perfumery and flavouring materials (due to lower price elasticity of demand), thus further exacerbating the competition faced by natural essential oils. Furthermore, turpentine, the other major feedstock for synthetics, is derived from renewable resources (as opposed to fuel oil and wood), is not subject to growing scarcity, and its price is unlikely to increase in the long term at a rate above that of general inflation. Its competitive pressure on essential oils will certainly not fall. Synthetic aromatic materials have a reputation for consistent quality, an adequate and steady flow of supplies, and a general absence of severe price fluctuations to which many natural essential oils are so prone. Although consumer demand for 'natural' products is strong the need for producers of natural essential oils to match the above advantages has never been greater.

WORLD PRODUCTION OF ESSENTIAL OILS AND INVESTIGATION OF OPPORTUNITIES

The most recent and detailed collection of data available is by BM Lawrence who lists 168 oils with their estimated production levels. The total market at the time was approximately 36,000 tonne. Growth rates, on the average, have been around 2% per annum so the total today is something like 40,000 tonne, with a value in the order of USD 500 million. The prices of these commercial oils cover a very wide range, from as low as AUD 1.50/kg for orange oil to AUD 10,000/kg for sophisticated absolute such as boronia or rose. In examining potential opportunities for the production of essential oils we need to look at which products make up this 36,000 tonne total market.

Figure 1 shows a separation of the three major types of essential oils:

- Citrus - particularly orange, lemon and lime (43%)
- Mints - peppermint, spearmint and 'cornmint' (17%)
- Lemon fragrance oils - lemongrass, citronella and Litsea cubeba (11%).

Citrus oils are all produced as by-products of other major industries such as the production of juice and juice concentrate in USA, Brazil and Mexico, and offer no opportunity for new production of the oils alone.

Mint oils are broken up into two market types:

1. True peppermint and spearmint which are almost exclusively US produced oils required particular climatic conditions and very substantial capital investments.
2. Cornmint which is grown mainly in China, Brazil, Paraguay and India at the very low opportunity costs of those countries.

Demand for high quality peppermint oil is growing at approximately 6 - 8% per annum as developing countries acquire a taste for luxury goods. This segment offers an opportunity for dedicated producers in certain parts of Australia.

Lemon fragrance oils are used mainly in the application of lemon fragrances in household cleaning and personal care products. All are produced in low cost peasant economies such as India, China and Guatemala and offer no opportunities to prospective producers in industrialised countries. Ranking all the production data of Lawrence in groups of 10, from largest to smallest, we come up with Figure 2.

Group 1 includes the citruses, mints and most of the lemon-fragrances, together with eucalyptus, cedarwood, and clove oil, and alone accounts for 29,500 tonne of the total 36,000 tonne. The remaining 6500 tonne is spread across groups 2- 9.

Both world demand and price need to be considered carefully when estimating the marketability (and hence commercial viability) of an oil product.

Based on production figures alone it follows that groups 2,3 and 4 probably contain the only oils which might be of adequate volume to support a significant new producer. (In saying this there may always be market opportunities for certain 'niche' markets with respect to quality but these have to be identified carefully and accurately by detailed 'hands-on' assessment.) Oils within these categories then need to be examined based on their price, costs of production and growing environments. Specific product prices vary enormously from one product to another, and even within one product's history, from year to year. The primary determinant of price will usually be the opportunity cost of production which is largely dictated by the economy and the environment.

In Australia the costs of production, especially labour, are high relative to our competitors and the cultivation of certain low value crops is not commercially viable. Not only should one consider the production price at any instance, but also the price history of the product under consideration. All essential oils are commodities. Their price varies directly with demand and supply within the limits of the opportunity cost of alternative crops as a minimum and the price of alternatives as a maximum.

Examining the situation of peppermint oil prices versus US production figures (fig 3a, 3b) it can clearly be seen that the fluctuating cycle is clearly that of a typical commodity, with 'trough' prices reflecting the opportunity cost of alternative crops (S.A. grass seed) in the USA. New producers must be aware of the commodity nature of essential oils and try to establish as accurately as possible what the minimum price is, thereby defining the alternative opportunity cost in the product's usual production centre.

PRODUCER/CONSUMER SEGMENTS

Examination of where the traditional producers and consumers are located allows some insight into determining opportunity cost and ultimate economic feasibility. Figure 4 shows the major producers and consumers. Virtually all the major products (with the exception of the USA) are developing countries with low cost, peasant-type economies. The consumers are largely the world's most developed countries led by the USA, Western Europe and Japan. Most of the world's leading essential oils marketing intermediaries are located in these countries, as are the major flavour and fragrance compounding and manufacturing industries.

TRADING ROUTES / MARKETING CHANNELS

Being commodities, largely produced in less-developed countries, the Distribution Channels for essential oils are typical of the oil fashioned trading structure, as represented by Figure 5. The number of participants in the essential oils trade remains considerable, despite a decline in the number of intermediaries and an increase in direct trading between producers or exporters and processors or end-users. Senior purchasing staff of multinational processing and compounding firms, which increasingly dominate the trade, now frequently travel in order to negotiate direct agreements with producers or exporters. Smaller firms however cannot usually afford to do this to the same extent, and therefore rely on intermediate.

The intermediaries which are represented in Figure 5 as agents or distributors may fall into two categories:

- i) Brokers (or commissioned agents) - traditionally acted on a commission basis on behalf of principals, the goods not physically passing through the brokers hands (or even through their country of operation). Nowadays this approach is outdated with brokers increasingly conducting business on their own behalf by taking a position on the market.
- ii) Dealers or Merchants - hold and sell produce and have a strong influence within their local market.

While the role of commissioned brokers or agents is declining, a reduction in the role of dealers and merchants is unlikely. The latter's ability to monitor and certify the quality of each branch of oil, provide blending and hence standardisation facilities, and in some cases to arrange financing, is widely appreciated within the trade. Australian producers should endeavour to sell as close to the ultimate customer as possible in order to both maximise price and develop the appropriate relationship with the buyer. This is of course also the most difficult channel to develop, and one which takes patience and a considerable on-going cost. One would expect 3- 5 years trial basis of supply before significant sales could be achieved, and an associated cost of at least AUD \$100,000 pa.

REQUIREMENTS FOR ACCESSING AND MAINTAINING ESSENTIAL OIL MARKETS

The requirements which must be met by any prospective exporter/producer are similar no matter how far up the distribution chain one goes. Ultimately the final arbiter of any buying decision is a major flavour/fragrance house or consumer product producer. The major requirements are as follows:

- i) **Consistent quality**
The product must fit that type which this customer is used to and it must be exactly the same, year in year out. As you can image a certain degree of variation exists from year to year with any product of natural origin. Essential oil dealers often carry out the function of blending to an accepted standard oils from different geographic and temporal locations.
- ii) **Reliable supply**
In view of the steady availability of most synthetic substitutes it is imperative that unnecessary year to year variations in the supply of natural essential oils are minimised from an industry perspective. Reliability of supply is of even more importance to an individual consumer product producer as any break in supply of raw materials can spell disaster to a particular product line and its markets.

- iii) **Competitive price (relative to quality)**
A price which is fair in the current market conditions, and relatively stable with time, flattening out somewhat the up and down swings of the commodity cycle.
- iv) **Long term security of 1, 2 and 3**
Long term relationships need to be fostered between seller and buyer, paying consistent attention to the customers needs.
- v) Since the majority of purchases are based on **sample quality** it is imperative that submitted samples do not differ measurably or subjectively in quality and character from the consignments they are said to represent.
- vi) **Timely deliveries** in accordance with recognised trading and documentation procedures in approved packaging.
- vii) **'Purity' of product**
The product must never contain any substance which is not supposed to be there (eg: water, dust, agrochemicals, etc). Obviously adulteration should be avoided, although this practice is somewhat commonplace amongst selected products.
- viii) **Regular information flow**
From producer to end-user on anticipated supply out-turns, in order to facilitate cushioning against unavoidable supply fluctuations.
- ix) **Appropriate terms of payment** and type of currency to be agreed upon beforehand.
- x) **Customer loyalty** (This can't be stressed enough). You supplied him for the past three years but now have better customers elsewhere!
- xi) **Packaging**
Most essential oils are shipped from source in the standard 200 litre (45 gallon) iron drum, typically containing approximately 180kg of oil, however, epoxy-lining is common for oils that are likely to react adversely with iron. In some cases the drums may be constructed of heavy duty plastics. Lower volume oils may be shipped in smaller containers of between 25 and 100 litres, the smaller sizes sometimes being crates in batches of two to four. Concretes and absolutes are frequently airfreighted due to their low volume, high value, and aluminium containers of various sizes up to 20 L are frequently employed. Many dealers break bulk, transferring the contents of large standard containers into smaller ones to suit the typical requirements of small users. The producer/exporter is responsible for ensuring that the containers are correctly sealed, have adequate air-space within the container, and are properly labelled as regards the identify of the product, its origin, and net and gross weights. The International Organisation for Standardisation (ISO) sets out the norms for packaging and labelling.
- xii) **Institutional and Legislative Aspects**
Numerous bodies exist which monitor product quality and trading procedures and draw up specifications for individual products. Worldwide standardisation amongst the leading compounders and manufacturers means that tight and often unyielding specifications for product quality have to be met before a product is deemed fit to use. The most widely recognised technical standards for essential oils are those set by ISO. Various national Pharmacopoeias also have established standards for many oils. The International Fragrance Association (IFRA) exists primarily to monitor the toxicological and other hazardous aspects of the various raw materials used in perfumery compounds. In several countries, individual ingredients such as essential oils have to be formally cleared by officially designated bodies before they can be incorporated into flavour compounds and even, in some cases, into perfumery compounds. An example is the Food and Drug Administration (FDA) of the United States. This has a major bearing on the adoption of 'new' or 'novel' essential oils.
- xiii) **Planning**
Prospective producers should co-ordinate their plants with potential buyers (such as EOT) from an early stage rather than attempt to launch new products or traditional products from unfamiliar producing regions entirely on their own. It must be ensure from the outset that a sufficient number of prospective purchases welcome or at least are positively inclined towards the scheme.
Early submission of samples with a view to obtaining comments from buyers before commencing commercial production is vital.

COMPETITIVE ADVANTAGES/DISADVANTAGES OF AUSTRALIAN GROWERS/EXPORTERS IN ACCESSING ESSENTIAL OIL MARKETS

As a producer of essential oils, Australia has a number of strengths and weaknesses that will affect the extent to which it can gain market share.

ADVANTAGES

- i) **Environmentally clean growing conditions**
Australia's ability to claim 'unpolluted', 'clean' and 'green' products, backed up by hard scientific data, offers exporters a marketing advantage in the light of growing consumer demand for unpolluted natural products.
- ii) **Political Stability**
Customers, and hence manufacturers, are eager to maintain reliable, consistent supply patterns for their raw materials. Considering that many producing countries are subject to economic and political instability, Australian producers can at least discount these factors when negotiating long term relationships in the market place.
- iii) **Diversity of growing conditions**
A wide range of climatic zones exists in Australia theoretically enabling a national industry to offer a wide range of products, thus widening its prospective markets.
- iv) **Unique and diverse native flora**
Australia is particularly rich in oil yielding genera, with many species still unique to this country. Long term this offers the potential for the development of new essential oils, however, it must be noted that it increasingly requires a great deal of time and capital to progress the development process, with no certainty of long term commercial viability.
- v) **Existing farming systems**
Essential oil production can be readily incorporated into existing farming systems in Australia. Often standard farm equipment can be used conventionally or adapted slightly to meet the particular demand. We also have innovative farmers who are among the world's most efficient producers of agricultural products.
- vi) **Existing Industry Infrastructure**
The NE region of Victoria already has a well established peppermint oil industry thereby lighting the way for expansion of this crop within the State. The potential exists to produce supplementary crops to further utilise the high capital cost equipment. In addition EOT is active in the production and marketing of essential oil crops, and although the majority of production has occurred in Tasmania, EOT is looking to expand its grower base to other parts of Australia. Marketing contacts and channels are well established as are the procedures for freight and export of the final product.
- vii) **Existing Research Facilities**
The Department of Agriculture at the Ovens Research Station has a long history of research and extension in essential oils and has the laboratory equipment necessary to provide important technical support, in particular relating to assessment of oil quality. The University of Tasmania is of course actively involved in the quality assurance programme of EOT and this expertise can be extended to other parties.
- viii) **Local Climatic Advantage**
Extended periods of summer production and long daylight hours are desirable for the cultivation of a number of temperate essential oil crops. To what extent the particular micro-climate of south east Victoria will affect the quality of selected oils must however be further investigated.
- ix) **BARA Victoria (Business Advice to Rural Areas)**
The newly established BARA is sympathetic to the need to develop new and sustainable industries in the region and can play an important role in attracting resources and funding for industry assistance.

DISADVANTAGES

- i) **Access to Information**
A major restraint to field production of essential oil crops is access to relevant agronomic, processing and marketing information. Some of this information is available however the provision of such information may depend on the development of appropriate relationships with the information providers. In addition such information will have to be ameliorated by local experience. The provision of ongoing technical information and support through on-farm trials and primary data generated from within the region will be an essential element in all future planning. Isolation from markets may also represent a restraint in regard to obtaining up to date and accurate market information as most end users of essential oils are located in Europe, USA and Asia.
- ii) **Climate Restraints**
Winter temperature and frost occurrence precludes the cultivation of some crops. Suitable soil type and topography is also of utmost importance as is the provision of adequate rainfall or irrigation.

- iii) **Farming Expertise and Attitudes**
Many potential producers will need to develop new skills and expertise in order to become proficient in production of essential oils row/field crops. The attitudes of producers to new farming alternatives will have a bearing on the rate at which the industry can grow to attain an economy of scale. Furthermore, whilst traditional farming options remain relatively profitable, the need to experiment and diversify may not be appealing.
- iv) **Opportunity cost**
Due to relatively high costs of production and attractive alternative crops, Australian producers will have to aim at the top end of the market with high quality oils, in order to gain the necessary price premiums. In addition customers or manufacturers will have to seriously consider the risks associated with changing, or adding to, their source of supply of a particular oil, the greatest being the possibility of a change in quality, which is avoided at all costs.

MARKET OPPORTUNITIES

The following summary is appropriate on the basis of the preceding background:

- i) Potential for import replacement within the Australian market is limited due to the small size of the market, and the types, forms and prices of product imported. Therefore significant production needs to be directed towards exports.
- ii) Less than a quarter of the total world market for essential oils is likely to contain opportunities for new Australian production.
- iii) Competition from synthetic substitutes is strong and this puts downward pressure on the value of natural essential oils. The existence of favourable soil and climatic conditions, although vital, is therefore not sufficient for considering entry into the export trade in essential oils. It is the opportunity cost of producing these oils that is the chief determining factor.
- iv) There is little opportunity for value-adding at the producer or co-operative level. Most processing companies require their raw materials to be in as basic a form as possible in order to ensure maximum flexibility in subsequent processing and blending operations.
Producers interests are without doubt best served by concentrating on production and quality aspects in order to negotiate fair, competitive prices for the basic raw materials with their customers.
- v) The price and market status of potential essential oil crops is very difficult to establish since the final quality of oil is the final arbiter of market acceptance and price.

Our view that; the only way to obtain useful market information is by thorough and detailed analysis involving personal interviews

with potential end users, is shared by other experienced market consultants and supported by personal experience. Combining the background information presented, in light of the experience of EOT and Australian Mint Oils, together with the outcomes from a 1994 feasibility study on the Opportunities in Essential Oils for North East Victoria, allows us to speculate on which crops may represent the best opportunities for essential oil production in Victoria.

In order of greatest commercial potential, these are:

1. Peppermint (*M. piperita*)
2. Spearmint (Scotch)
3. Dill weed/seed oil
4. Lavender (*L. angustifolia*)
5. Basil (Reunion type).

These crop opportunities are inevitable based on some speciality of product. For instance:

- i) Parts of Victoria (like Tasmania) have peculiar climatic advantages with respect to the production and resultant quality of peppermint, spearmint and dill (proven);
- ii) 'True' lavender oil is becoming increasingly hard to find since the proliferation of hybrid clones in France, and the not uncommon practice of adulteration. A niche market is again developing for high quality lavender oil, not least within the aromatherapy market;
- iii) Although the indications are that Basil oil production is only of the order of 12 tonne pa, this crop has been added to the list on the basis of information gained by Mr Terry Perry, an experienced consultant formerly with Australian Mint Oils. This information considers a larger market up to 50 tonne pa is possible given the ability to produce sweet basil oil of a 'Reunion Type'.
Warning: It is important to note that most essential oil crops are very price and yield sensitive.

GENERAL RESOURCE DEVELOPMENT FOR ESSENTIAL OIL PRODUCTION

Having identified a number of potential essential oil crops for Victoria there is a need for further ongoing assessment in light of the resources which need to be developed:

- i) Suitable varieties or cultivars in regard to yield and oil quality.
- ii) Knowledge of the agronomic requirements for commercial production (nutrition, irrigation, weed control and pest and disease management)
- iii) Knowledge of optimum planting and harvesting times in regard to yield and oil quality.
- iv) Specialised equipment (planters, harvesters, etc)
- v) Distillation and extraction infrastructure - this in itself may present the bigger challenge to potential industry participants.

Unless there are opportunities to utilise the existing infrastructure of Australian Mint Oils there will be a need for substantial investment of capital and expertise. Utilisation of the existing infrastructure is unfortunately limited by the distance of production areas from the distilleries, which from experience needs to be less than 30 - 40 km for cost effectiveness. It must be emphasised that the emergence of a substantial industry depends on the achievement of certain economies of scale. 'Cottage' industries operating in isolation will not be able to fully develop the appropriate resources required for competitive production. An efficient harvesting and distillation infrastructure needs to be supported by adequate land use and a co-ordinated production approach.

If time allows we can now examine the operations of EOT in slightly more detail in light of the subjects discussed in this presentation.

WHAT MAKES EOT DIFFERENT: (KEY SUCCESS FACTORS)

The following are the keys to EOT being a successful 'niche' market supplier of oils and extracts in the highly competitive market for flavour and fragrance ingredients.

LOCATION

Location gives Tasmania a comparative advantage because of its maritime climate, availability of soils, water and freedom from pollution. Key climatic factors are day length and day/night temperature differentials which are of vital importance in determining pathways of synthesis which ultimately determine composition and quality.

RESEARCH INFRASTRUCTURE

Research infrastructure of the University and other international companies are used to perfect and improve the products offered by the company. The University is able to analyse and characterise the oils which are traded world-wide. As well, the laboratory can test for any residues and contaminants so that we can guarantee purity of product to the buyer. This is a very important capability to sustain successful marketing of essential oils on the international market.

HARVESTING

Harvesting technology has important implications in the essential oils industry to reduce labour costs and improve competitiveness. To this end, the Company has developed specific harvesters for blackcurrants and boronia. The Company has also modified standard harvesters to suit particular crop types in order to achieve high yields of the main quality components of essential oils. In this area, the Company has made major advances to improve competitiveness.

EXTRACTION

The Company recognises the need to fully investigate extraction procedures to improve the recovery and quality of end product. In some cases, new products such as Tasmanian boronia and native pepper extracts have been developed and these have been introduced to overseas companies to improve their product range. The extraction process involved are steam distillation and solvent extraction.

QUALITY CONTROL

Product quality and control is of prime importance to gaining market access. Quality control has two main aspects: The buyer needs to be confident that he is receiving what he has ordered/paid for; and (of increasing importance) must in many instances now satisfy various Government agencies of the safety of his product and its conformity to international standards. The Company therefore places great emphasis on the quality of its products and the maintenance of this quality from year to year. International customers have recognised our ability to maintain this consistency.

A total quality management programme commences with the selection of high quality planting stock, continues through site selection, site preparation, crop management, oil accumulation and development, time of harvest, post harvest storage, processing, purification and blending to final assessment. There are checks at all points in the route from genetic material through to final end product. In many cases customers have an opportunity to inspect and comment on the production/development process to ensure that the final product is tailored to their needs. Final assessment of product before dispatch always involves organoleptic assessment by University and EOT personnel by the appropriate University analyses.

RESEARCH AND DEVELOPMENT

The company's own research and development programme is directed towards maximising its competitive advantage through improved productivity, production efficiency and product development. Growers contribute to R&D by paying a research and development levy as a deduction from crop payments.

Some key projects are:

- Nitrogen and water relations in peppermint
- Dill variety screening for increasing D-carvone yield
- Dill harvesting methodology to optimise yield/carvone level
- Cis-3-hexenol production ex fennel
- Quantifying oil loss associated with peppermint harvest
- Seasonal and regional variations in blackcurrant bud extract composition and yield
- Tasmanian lanceolata - a new natural flavour product.
- Nitrogen and water relations in boronia
- Creation of "French-type" blackcurrant bud absolute
- Herbicide screening/trials for boronia and peppermint.

TRANSPORT

In many cases our products have a high value and low volume and the transport component is a small percentage of the total product value. This means that air transport may be used and customers receive timely deliveries immediately after processing. In addition, well serviced shipping routes allow us to safely transport product worldwide by sea. Stocks are held by agents in New York (Berje) and the United Kingdom (RC Treat). This latter arrangement through agents improves availability to local customers and facilitates the free flow of product information to and from our customers.

MARKETING STRATEGIES AND HOW THEY DEVELOPED

Tasmania had to be shown to have the resources, expertise and professional management to become a worthwhile supply source due to a complete lack of knowledge of the State in the world industry in the late 1970's. Tasmania's ability to perform to world-standards had to be demonstrated to market leaders in the F/F industry in order to secure their co-operation in EOT's development programme. Faced with this task it was decided that the majority of dealings with the international industry would be more appropriate through a corporate identity rather than through the Government or the University. This led to the establishment of our registered business name "Essential Oils of Tasmania" and unique logo.

Armed with our new corporate identity key players in the F/F trade were targeted initially at the International Congress of Essential Oils in 1980 and by subsequent direct contact. Presentation of EOT's own promotional audio/visual literature together with relevant research papers by the University of Tasmania significantly added to the standing of the Tasmanian industry.

The development and promotional strategy has been to:

1. Produce good quality distinctive temperate climate products backed by high quality control procedures.
2. To adopt a policy of selling only natural oils and extracts and guarantee that there will be no adulteration of products sold by 'EOT'.
3. To be seen by the international trade as a reliable source of supply.
4. To provide good value for quality.
5. To be seen as reputable people to do business with; and
6. To be seen as an off-season supplier to the northern markets.

In projecting this image it was important to link the high standard of University research and quality control to our efforts and also emphasis the stable political and natural climate of Tasmania in contrast to the unstable situations of many developing countries which supply international markets with essential oils.

The successful promotion of these policies resulted in considerable interest in, and provision of assistance to, the development programme by major companies and went a long way to shedding the image and associated impediments of being a "new supplier". Today EOT is recognised world-wide as a reliable producer of high quality natural products.

To reiterate, the company was established and promoted as a company with a difference. These differences were based on the production environment, market driven research and development and the combined expertise of the three initial shareholders.

The company today continues to stress its differences:

- a reliable southern hemisphere supplier
- a clean green environment
- an R&D focus organisation with good QA control programmes supported through the University and quality field staff
- strong agency support and representation in Europe and the USA.

DISTRIBUTION CHANNELS

In the early 1970's the bulk (approx 90%) of the world trade in essential oils was channelled through merchants and brokers, with the balance being by contract between producer and user. Today the ratio is approx 50/50 with the largest companies buying the largest percentage direct.

It is evident that as technological advances become universally adopted throughout the essential oil industry the risk associated with a buyer sourcing direct (with respect to availability, price stability, quality assurance and consistency) are considerably reduced. Now more and more producers are able to shape their own fortunes by having a direct bearing on how and where their product is marketed and used. EOT is a prime example of a company which has achieved strong branch recognition in international markets through its direct marketing efforts, supported by proven production and quality assurance systems.

As the flavour/fragrance market consistently shows growth rates of 6 - 10% pa (generally exceeding the GNP growth of OECD countries) there is ample incentive for innovative producers to develop the skills and strategies required to go it alone. This, however, is not to take anything away from the importance of traders and brokers who mediate in one way or another between producers and buyers. An obvious advantage of such relationships may be as simple as being able to deliver on demand from warehoused stocks, or as complex as the need for total quality control post-production. EOT utilises the resources of both its agents primarily in the areas of stock holding and customer networking and liaison particularly important when producer and buyer are separated by half a day's time difference and thousand of kilometres.

FUTURE FOR EOT - SO WHAT DOES THE FUTURE HOLD?

EOT continues to see its future as a 'niche' market producer of essential oils without being subject to the cut and thrust of international commodity markets. For example, the largest volumes of essential oils traded in the world are the citrus's, mints, cedarwood and clove oils. Of these bulk traded products mint is ideally suited to production in Tasmania. So the question is do we have to produce high quantities just to compete? Well, Tasmania's production of peppermint oil is minimal in relation to total world production, but it is of a quality standard that demands a premium price. We don't want to be the biggest, just the best! It is only by producing a premium standard product that the company can maintain a sufficient farm gate return to maintain its grower base when competing with alternative crops.

THE ECONOMICS OF HERB FARMING - D F Beech

INTRODUCTION

Medical and culinary herbs are herbaceous aromatic plants grown or collected in the wild and marketed fresh or dried. Many of the same aromatic plants are sources of essential oils used as flavourings or fragrances in pharmaceutical and industrial products.

World-wide herb production runs into billions of dollars per year with the American market being around \$1.3 billion and Europe about three times this figure. Australian annual imports of culinary herbs are around \$10-12 million while the medicinal herbs are \$45 million (Daffy 1995).

The commercial production of herbs in Australia in terms of value is very small (Table 1) and had in the past commanded a low priority when it came to the investment of research dollars. Fortunately recently some investment has been made by the Rural Industries Research and Development Corporation. Due to this lack of research little information can be obtained from agricultural institutions to assist the herb grower in providing improved varieties and their agronomy. An extensive literature search has provided a wealth of chemical data but almost nothing on herb yield in response to soil fertility or the environment.

In order to assess herb quality, particularly medical ones, chemical analyses are required and are often very expensive and outside the individual farmers' budget.

MARKET POTENTIAL

Culinary Herbs

An estimated volume of dried culinary herbs to be sold on the Australian market is given in the Masterfoods Guide (Table 2). The major one is dried garlic with a figure of 600 tonnes, most of which is imported from USA, China and India. The other nine herbs add up to just 203 tonnes, and the production of such a small quantity could be undertaken by just a few growers.

However, if Australian growers wish to establish a viable herb industry serious consideration must be given to the development of an export market. Table 3 shows that Australia is exporting culinary herbs; the most important ones being parsley and shallots.

Looking at the local market for fresh herbs, there is considerable variation in their prices, as shown at the Flemington Markets during the period 1990/91 to 1993/94 (Table 4). It can be seen that the wholesale price averaged over the year almost without exception have dropped. An exception is English parsley with an increase of 3.2% which is really less than the amount of inflation during this period. This fall in prices is possibly due to greater production either from better yields or increased crop area.

The monthly wholesale prices at the Flemington Markets for 1993/94 are shown in Table 5 which shows that the time when your product goes to market is very important. For example, take parsley which is probably the most important culinary herb has the worst price fluctuation. The price decrease from the top to lowest price is 43% for the Continental and 50% for the English parsley. Also the table shows a price drop for several herbs from July to September, a space of only two months, it fell by 33, 27 and 22% for chives, coriander and mint respectively. Prices can also vary according to source of such as the December price for fresh basil, which was \$11.40 and \$6.60 originating from Queensland and NSW respectively. Such differences occur overseas as shown in Figure 1. An example is dried thyme on the French market where the local product is about five and two and half times higher than from Morocco and Albania respectively.

Such price fluctuations are important in establishing your cash flow in your budget. This anomaly can be reduced by growing a collection of herbs that have their prices peak at different times.

The increasing popularity of growing herbs will eventually lead to an oversupply in the domestic market and serious consideration will have to be given to the production of dried herbs for the export market. One such market could be the United States which is a major importer of herbs. Herbs together with spices and essential oils as its imports have a total value over US\$400 million (Kebede 1990). One of the major herbs imported into the United States is oregano valued around US\$9.2 million in 1990 and the quantity had increased about 50% over a 15 year period.

However, it is interesting to notice how its imports had changed. Over this period Turkey was initially a negligible supplier and is now almost the equal largest one together with Mexico (Fig. 2).

The growing of fresh herbs in the USA is largely based in California, with Florida and New Jersey being important production areas. However, the growers in these states have strong competition from Mexico and the Caribbean (Simon 1990). If the Australian grower wishes to enter this market, possibly during the off-season with high prices, this competition will have to be acknowledged.

Other competition closer to home is New Zealand which is also investigating dried culinary herbs for export. Preliminary research has already shown that lemon balm, lemon verbena, sage and thyme have all produced good quality herbage which meets international market standards. Research is also being conducted on oregano, peppermint and spearmint (Douglas 1995).

Medicinal herbs

In addition to culinary herbs, plants that are used as medicinal herbs should also be considered. The medicinal herb industry is well established internationally and is expanding due to increasing popularity of natural products.

As previously mentioned the Australian medicinal herb industry is valued at \$45 million of which \$35 million is sold retail and the remainder used by practitioners. Some \$5 million of this is Australian grown (Hemphill 1991) and there are a number of Australian pharmaceutical companies are interested in using the Australian product.

The actual quantities of the individual herbs is difficult to determine but Table 6 presented by Daffy (1995) at a recent conference shows the approximate usage of the higher volume herbs.

The Queensland company, Mediherb Pty Ltd, has produced a list of medicinal herbs which give the quantities they are willing to purchase and their prices. One of the chief herbs is *Echinacea purpurea* which is being produced in significant quantities in Australia with an estimated 15 tonnes of fresh herb in 1994 with a price paid of \$5 to \$6 per kg for the whole plant.

Not listed on Table 6 are two well-known plant species, evening primrose and ginseng. Evening primrose although technically not a herb fits into the herbal market place and about 200 tonnes of evening primrose oil is consumed in Australia each year. With the seed containing 24% oil (Hudson 1984), this would mean that about 830 tonnes of seed is required, and allowing a seed yield of 1500 kg ha (Grignac 1988), it would take about 555 ha to replace its import.

Another possible market opportunity, although considerable capital investment is required, is American ginseng (*Panax quinque folium*) which the Chinese market prefers over their local ginseng (*Panax ginseng*). In the United States American ginseng is both cultivated and collected in the wild; the supplies of the later are now small due to over-harvesting. Some research, sponsored by the RIRDC, has been done recently in Tasmania which will give an indication of its potential as a crop in Australia.

At this point it should be mentioned that New Zealand has had a successful research program on medicinal herbs. Commercial appraisal has shown valerian, dandelion and chamomile to make international market standards. Other crops also being investigated are *Echinacea*, arnica, feverfew, golden seal, and both Korean and American ginseng (Douglas 1993).

PRODUCTION

Organic versus Traditional Farming

There is a strong and persistent trend from many consumers to have their food produced organically (ie without the use of artificial chemicals) and this also applies to both culinary and medicinal herbs. Much of the dried herbs, such as oregano, sage and thyme, comes from low income areas around the Mediterranean and have been collected from the wild without any input other than harvesting and packaging. These herbs would be considered to be organically grown.

However the Australian situation is different due to the lifestyle we wish to have. Growing plants especially herbs may be very satisfying but if it is to provide a reasonable livelihood, capital investment and overheads will have to be considered. If economic yields are to be obtained without fertiliser input, the soil needs to be highly fertile and therefore the land is more expensive. If cheaper land is to be used and requires improvement in soil fertility and a large scale industry is to be set up, I doubt whether there will be sufficient "natural" fertiliser will be available to sustain it. Fortunately most herbs have a low attraction to insect pests, but they may be susceptible to attack by diseases against which there are very few "natural" fungicides.

If one looks at the budget presented in this paper for fresh parsley, the "savings" in growing it without the application of artificial chemicals, ie organically, would be 1.6% for the variable costs and 1.32% for total costs. The question that needs to be answered will the increase in price of the organic herb would compensate the loss of yield and quality.

Farm budgeting

In many cases the potential herb grower has already a farming enterprise and wishes to diversify into producing herbs either for the fresh or industrial market. The economics of this paper deals with the option of starting from scratch. Even if you already own your land the principles are the same, based upon the return on the capital invested.

One of the first decisions that should be made is the level of income the grower wishes to have. This will determine the scale of production, the method of cultivation eg. glasshouse, hydroponics or in the field, and the type of herb he intends to grow.

The person who has already a farming enterprise has the advantage in that he can start in a small way by experimenting with a range of herbs to see which ones will produce economic yields and are most adapted to his situation. He is also able to test the fresh herb market before making an investment to go into full scale production.

To provide budgets to cover each region and each herb or combination of herbs is not possible in this paper, but the budgets for parsley in this paper can be used as a guide and the figures be substituted where necessary.

In these budgets tables are given to determinate the profitability by using a range of yields and prices to establish the break even figure for the enterprise (Table 7 and 8).

Costs associated with herb production

To maintain profitability and competitiveness, one has to improve yields and contain costs. In the short term this would come from improving cultural practices which was discussed by yesterday's speakers, so I will make only short comments on some aspects of production which will affect the farm income.

The cost of plant material, such as seedlings, is very large when bought from a nursery. This cost could be greatly reduced by raising his own seedlings or sowing seed directly into the soil. However, the grower has to weigh this option with the extra labour costs involved.

Weed control is the predominant cultural practice in herb production necessary to avoid product contamination and maintain high yields. A possible means of control is use of plastic mulches which not only reduce the weed problem, but also lessens the use of herbicides and possible chemical residues. The cost of the mulch and its laying will have to be assessed against the cost of casual labour.

Adjusting the row spacing and plant density can produce a more upright plant to ease harvesting and reduce labour costs. It is also more likely to produce a cleaner product.

Plant selection within the various herbs such as the mints, sage and thyme for plant types which will lead to easier harvesting either by machine or manually.

In the longer term the development of new varieties with better attributes is required to reduce labour and other costs to remain competitive with off-shore producers.

Marketing

Presentation of the product has an important bearing on the price that is likely to be received. This involves the type of packaging, trueness of colour, and its general appearance and the absence of impurities.

As a footnote to this paper, I like to provide to the grower an understanding why there is such a difference between the price he receives for his products at the farm gate and what is on the shelf of the supermarket. The retail price of a product being marketed depends upon its presentation and its packaging eg. glass bottles, reclosable pouch or sachet.

Retail prices of a product can range from \$0.49 to \$10.00. If we take a product to be valued at \$1.00 ie. 100 cents, the flow chart (Fig. 3) shows the costs to the consumer from the processor, whose return is just 15% of the marketed product.

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Table 1. The Number of Growers, the Areas and Production of Four Main Herbs in Australia

CROP		YEAR										
		1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Sweet Fennel	1	12	9	12	14	18	14	18	15	15	12	21
	2	21.0	19.8	25.3	24.9	39.0	29.5	28.6	28.6	41.4	25.7	52.5
	3	101200	73050	90700	90135	161832	116864	146078	96813	243084	238389	251827
Horseradish	1	1	-	3	2	3	1	2	1	1	1	1
	2	10	-	5	8.5	5.5	2	5.4	6	7	10.5	10.5
	3	2000	-	16640	28570	35493	20000	22000	36000	15000	22500	22000
Parsley	1	-	-	72	81	69	71	75	77	72	72	115
	2	-	-	80.4	97.4	92.6	109.0	116.7	117.6	95.2	113.6	145.0
	3	-	-	794145	887704	104656	125053	111220	118314	120015	125129	205327
Peppermint					3	4	6	1	3	4	5	
	1	6	5	20	25	26	25	24	24	22	4	36
	2	25.3	30.7	38.1	97.5	140.2	173.7	182.7	219.7	196.2	262.9	305.3
	3	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

- Notes: 1. No of growers
 2. Areas in hectares
 3. Production in kg

Source: DF Beech (1995)

Table 3. Australian Exports of Herbs (kg)

CROP	YEAR					
	1987/88	1988/89	1989/90	1990/91	1991/92	1992/93
Basil	128	2106	178	2530	311	3576
Bay leaves	-	-	-	-	-	25
Chervil	-	-	-	-	-	339
Chicory	1307	941	1780	4598	912	892
Chives	85	554	229	532	41	784
Coriander	95	29	-	162	-	2605
Dill	1010	1747	117	278	153	585
Mints	145	299	-	1179	7	321
Mustard Cress	1056	240	-	-	-	30
Oregano	-	19	-	61	1	135
Parsley	20466	85441	47384	60837	100873	192519
Rosemary	5	19	-	240	68	69
Sage	-	4	-	157	-	198
Shallots	5080	3069	1572	1866	122442	216682
Sorrel	-	-	-	100	-	153
Tarragon	260	340	-	181	-	185
Thyme	-	77	-	153	45	876
Water cress	15626	8308	566	1426	1121	934

Table 5 Wholesale Market Prices: Fresh Herbs, Flemington, July '93 - June '94

Item	Source	Pack	J	A	S	O	N	D	J	F	M	A	M	J	Average
Basil	QLD	doz	11.20	11.00	10.50	10.90	11.20	11.40	6.30	6.40	6.30	6.10	7.30	11.90	11.03
" "	NSW	doz	9.80	9.80	10.90	3.90	4.00	6.60	4.10	4.10	4.10	4.10	4.10	4.50	7.78
Chives	NSW	doz	5.70	4.70	3.80	3.80	4.00	4.00	4.10	4.10	4.10	4.10	4.10	4.30	4.26
Coriander	NSW	doz	4.90	3.80	3.60	3.80	3.90	4.00	4.10	4.10	4.10	4.10	4.10	4.30	4.07
Dill	NSW	doz	5.60	5.60	4.80	4.70	4.70	4.40	4.40	6.20	5.00	5.10	5.00	4.80	5.03
" "	QLD	doz	6.40	6.40											
Endive	NSW	bunch	0.62	0.67											
" "	NSW	doz					7.70	8.00	8.80	11.00	13.50	12.60	9.10	8.40	9.89
Fennel	VIC	ctn	10.80	8.80											
Ginger	QLD	kg	1.00	0.99	0.96	0.86	0.76	0.65	1.00	0.87	1.20	1.20	1.10	0.90	0.96
Mint	NSW	doz	5.00	4.30	3.90	3.90	4.10	4.20	4.20	4.20	4.20	4.20	4.20	4.50	4.24
Mixed herbs															
Parsley, continental	NSW	bunch	2.80											2.50	2.65
" "	NSW	doz	3.20	3.70	4.10	3.90	3.90	3.60	4.70	4.40	3.30	3.00	2.70	2.80	3.61
Parsley, English	NSW	bunch	2.40	2.80	2.30	1.60	1.60	1.70	2.00	1.80	2.20	1.80	1.40	1.90	1.96
Watercress	NSW	bunch	0.89	0.87	0.82	0.77	0.81	0.84	0.84	0.84	0.94	0.84	0.84	0.85	0.85

Data: Flemington Market Reporting Service, NSW Agriculture
Fruit and Vegetable Prices and Receipts, 1993/94

Source: S. Craig (1995)

Table 2. Estimated Volume of Australian Industrial Market for Culinary Herbs

Item	Tonne/year	Present Sources
dill weed	5	-
dry garlic	600	USA, China, India
majoram	16	Egypt
mint	22	Egypt
oregano	45	Chile, Turkey, Greece, Argentina
parsley	50	USA, Germany, Israel
rosemary	25	France, Egypt
sage	12	Turkey
tarragon	3	France
thyme	25	Cyprus

Source: Master Foods Guide to Commercial Herbs and Spice Growing (1993).

Table 4

Wholesale Annual Average Prices for Selected Fresh Herbs, Flemington Markets, 1990/91 - 93/94

Item	Source	Pack	4 year av.	1990/91	1991/92	1992/93	1993/94
Alfalfa sprouts	NSW	tray	8.50	8.50			
Basil	QLD	doz	11.38		13.20	9.90	11.03
	NSW	doz	8.43	9.60	7.90		7.78
Chives	VIC	doz	9.90		9.90		
	NSW	doz	4.56	4.80	4.20	5.00	4.26
Coriander	QLD	doz	3.90		3.90		
	NSW	doz	4.62	5.20	4.30	4.90	4.07
Dill	VIC		4.00	4.00			
	NSW	doz	5.21	6.10	4.70	5.00	5.03
Endive	QLD	doz	5.40		5.40		
	NSW	bunch	0.69	0.74	0.70	0.64	
Fennel 13 kg	NSW	doz	4.73	3.70		0.59	9.89
	VIC	ctn	8.37	8.30	9.50	7.30	
Chilli 7kg 4kg	NSW	ctn	9.15	9.20	9.10		
	NSW	bunch	0.78		0.78		
	QLD	ctn	12.30	10.60	14.00		
	SA	ctn	10.70	10.70			
	NSW	1/2 ctn	10.05	8.80	11.30		
	NSW	1/4 ctn	12.90	7.20	18.60		
	QLD	1/2 ctn	10.25	10.50	10.00		
Ginger	QLD	1/4 ctn	12.27	9.50	13.50	13.80	
	VIC	1/2 ctn	7.40	7.40			
	VIC	1/4 ctn	15.50	9.00	22.00		
	Import	1/2 ctn	40.00	40.00			
Ginger	Import	1/4 ctn	30.00	30.00			
	QLD	kg	1.34	1.50	1.50	1.40	0.96
	NSW	kg	1.70	1.00	2.40		
	NSW	ctn	9.00	9.00			
	Import	kg	3.00	3.00			
Melb. market average price range (Calendar '93) = \$1.19 - 1.71/kg							
Mint	NSW	doz	4.41	4.60	3.90	4.90	4.24
	QLD	doz	3.90		3.90		
	VIC	doz	5.00		5.00		
Mixed herbs	NSW	doz	6.00	6.00	6.00		
Parsley, Continental	NSW	bunch	1.88	1.10			2.65
	NSW	doz	5.30	5.20	3.80	2.20	3.61
Parsley, English	VIC	bunch	0.81	0.81			
	NSW	bunch	1.91	1.90	2.30	1.50	1.96
	QLD	bunch	0.45	0.45			
Watercress	VIC	bunch	1.90	1.90			
	NSW	bunch	0.89	0.95	0.81	0.94	0.85
	QLD	bunch	1.15	1.10	1.20		
	SA	bunch	1.20		1.20		

Data: Flemington Market Reporting Service, NSW Agriculture
Fruit and Vegetable Prices and Receivals, various years

Source: S. Craig (1995)

Table 6. The approximate usage of the higher volume herbs which are likely to grow well in Australia.

Quantity	Herb	Botanical Name	Plant Part
10 - 20 tonne	Skullcap	Scutellaria lateriflora	aerial parts
	Echinacea	Echinacea purpurea	whole plant
5 - 10 tonne	Passionflower	Passiflora incarnata	flowering and fruiting tops
	Uva Ursi	Arctostaphylos uva-ursi	leaves
	St Mary's Thistle	Silybum marianum	seed
1 - 5 tonne	Calendula	Calendula officinalis	flowers
	Dandelion Root	Taraxacum officinale	root and rhizome
	Dandelion Leaf	Taraxacum officinale	leaves
	Hawthorn	Crataegus monogyna	berries
	Chaste Tree	Vitex agnus-castus	fruit
	Burdock	Arctium lappa	root

Source: Daffy (1995)

Figure 3 The Estimated Cost of a Product to the Consumer from the Processor

Consumer	100c	→	Repacker	60c	→	Ingredient	19c	→	Processor	15c
			margin	25c		Wholesaler			financing	1c
			discount	15c		financing			margin	2c
			to retailer			marketing			warehousing	
						packaging			and delivery	1c
						production overheads				
						warehousing delivering				
						and merchandising				10c

Source: Penninger (1995)

PROPERTY GROWING FRESH PARSLEY

Property Details

Area	Total	20 ha
	Cropped	18 ha
	House/sheds	2 ha

Capital Requirements

Land	20 ha @ \$6000 ha	120,000
House		80,000
Sheds		40,000
Plant		100,000
Machinery		70,000
Irrigation		<u>20,000</u>
		\$430,000

Depreciation

	-
	-
x 3% =	1,200
x 10% =	10,000
x 15% =	10,500
x 15% =	<u>3,000</u>
	\$24,700

Overheads

Cash Expenses

Rates	1,500	
Telephone	500	
Office Expenses		180
	<u>25,000</u>	
Bank Charges	480	
Accountant	600	
Publications	100	
Licences	100	
Insurances	2,000	
Vehicle Registration	340	
R & M Plant	4,200	
R & M Improvements	1,600	
Fuel & Oil	<u>2,400</u>	
Total	\$14,000	

Total Costs

Cash expenses	14,000
Variable costs	294,660
Depreciation	24,700
Allowance	
Owner/operator	
	\$358,360
Total Costs per ha	19,909

Variable Costs (per ha)

Seedlings			8,000
Land	preparation	110	
	transplanting	57	
	spraying	57	
	fertilizing	76	
Irrigation			300
Fertiliser			160
Chemicals			80
Casual labour			50
	transplanting	18 hrs @ \$10 hr	
	harvesting	60 hrs @ \$10 hr	
	irrigation	10 hrs @ \$10 hr	880
Harvesting			
	2500 boxes @ \$1.20 ea		3000
	Transport 2500 boxes @ 60c		1500
	Agent's commission		<u>2400</u>
			<u>\$16,370</u>

Total Variable Costs for 18 ha = \$294,660

Table 7 Gross Income for Fresh Parsley at a Range of Yields and Prices (\$)

Prices \$/kg	Yield kg ha			
	8000	10000	12000	14000
1.00	8000	10000	12000	14000
1.50	12000	15000	18000	21000
2.00	16000	20000	24000	28000
2.50	20000	25000	30000	35000
3.00	24000	30000	36000	42000
3.50	28000	35000	42000	49000
4.00	32000	48000	48000	56000

PROPERTY GROWING DRIED PARSLEY

Property Details

Area total	20 ha
cropped	18 ha
house/sheds	2 ha

Capital Requirements

As for fresh parsley	430,000		24,700
Plus drying equipment 9 racks and trays	20,000	x 15%	<u>3,000</u>
			\$27,700

Depreciation

Overheads

Cash - as for fresh parsley	14,000
Variable costs*	294,660
Plus additional labour costs	7,200
Depreciation	27,700
Allowance Owner/operator	<u>25,000</u>
	<u>\$368,560</u>

Total Cost per ha = \$20,475

* Based on Yield of 1200 kg ha and 40 kg per box x \$500 (\$3000) giving same cost as packaging fresh parsley.

Table 8 Gross Income for Dried Parsley at a Range of Yields and Prices (\$)

Price \$/kg	Yield kg ha					
	800	1000	1200	1400	1600	1800
4.00	3200	4000	4800	5600	6400	7200
6.00	4800	6000	7200	8400	9600	10800
8.00	6400	8000	9600	11200	12800	14400
10.00	8000	10000	12000	14000	16000	18000
12.00	9600	12000	14400	16800	19200	21600
14.00	11200	14000	16800	19600	22400	25200
16.00	12800	16000	19200	22400	24600	28800
18.00	14400	18000	21600	25200	28800	32400

CERTIFICATION AND GROWING TUMBETIN BROAD ACRE HERBS - Robert Down

I'm here to talk to you this morning about herb growing, what I call virtual reality. How many of you came here yesterday with the idea of growing herbs? Would you like to put your hands up please? Okay, how many of those today still feel like growing herbs?

So, what we're going to discuss this morning is two areas. One is what we call the certification process, except that I'm not going to explain that at all; and the other was left to me to kind of make up as I went along. And I think after yesterday you've got a fair idea about statistics and tonnages and dried and fresh and all the rest of it, and maybe what's involved in actual growing, but what I want to talk about this morning is probably getting your fingers dirty. Because that's what you have to do to get into this business and that may come as a rude shock to some of you, but it cannot be operated from the lounge room! However, that does not stop you from working "on" the business instead of "in" the business all the time. And that's what Eileen and I do now - we worked on the business, and we also work in the business, but you have to get that division there some time.

The word organic has been a fringy word that started back in the 80's, and don't get me wrong, I have no quarrel with the concept of organic growing as such, because that is the way we operate, except I prefer to call it something else. I have a tremendous problem with the ideology behind organic growing. Travelling around the country all I see is a lot of talk. I see a tremendous amount of ideology going on out there. I see a tremendous amount of discussion and in-depth this, and in-depth that, but I don't see an awful lot of herbs getting grown! Which tends to make me very angry. And the ideology gets battered backwards and forwards.

I have a diploma in horticulture and agriculture. But I grow from here, and that's where we've got to go from - here and here, from the heart and from what we know is right and wrong. Now I don't care, anyone can come up and try and convince me on paper, I'm talking about virtual reality here, when we're talking about the soil, the structure and how it behaves, and what we have done to it in 200 years in this country. We have absolutely bastardised our land, and I use that word strongly. However, I also have a farming background and it is not our fault that has happened. It is what we have been told or lead to believe or carried on from our forefathers. So there's a whole ideology there, and a whole set of historical characteristics that have been carried right through generations and generations of traditional farming. And I say that we have to try and change that a little bit, even if it's only step by step in our generation, maybe the next generation with carry on. And, okay it's good to see farmers getting professional, good to see computers in their offices, and all the rest of it, we still have to remember that we are dealing with living product and living plants.

We still have to remember that when we place poison on those plants, it doesn't just disappear into thin air, as you may be told, or you may think. There's things called direct residues - it doesn't go away. You can break it down with green plant over a period of time, but it just doesn't go away! So what you put on you get out. Life is like a bank and your ground is like a bank. You go into overdraft you're in trouble. You put your land into overdraft and you're going to get into more trouble than you can poke a stick at. Your yields go down, you've got to put more on to get more out. Because you've got to put on what the land requires.

Peer pressure amongst farming communities can be a problem. So what you have to do is to be strong and stand out on your own and do what you believe in. And let's forget this fence farming that's been going on in Australia for 200 years! What's he growing? Carrots. Ah they look good this year, let's get some carrots in. Then the neighbour down the road, and you've got the domino theory, you've got everybody growing carrots - or corn, or wheat, or sheep. So what happens, down goes the price. We're on the old boom cycle. Let's start thinking as individuals about what we can do with our properties and not be influenced by people who have no control over those properties and will not be there at the end of the day to feed you a free lunch because there's no such thing as a free lunch!

So when it comes to certification, it concerns me, because I will come along and maybe I have no qualifications. I call a guy, as I did in 1989, and said, "What are your qualifications for certifying me?" He said, "I, I, I, I'm in the organic movement". And I said, "Mmm". And I said, "What are your horticultural/ agricultural qualifications?" He said, "He said, well, um, mmm". I said, "Thank you very much".

Then I started to have a look into the industry and at that time they didn't demand a soil toxin test, which they do now. I mean, you're growing organically and you're growing on land riddled with dieldrin, and you don't know about it? Come on! Virtually reality! This is where the ideology comes into it.

So a guy comes out and he certifies your property on various criteria which has been set up and this is the power structure we're talking about here with the organic movement - funded by the Government who have total control now. We've got AQIG - the Australian Quarantine Inspection Group, and we've got other people. And they're all telling us what to do and what not to do. And this new industry, this sunrise industry we have in herb growing we've got a chance to do something a little bit different. But it depends on you guys out there what you do with it. Because it is now your responsibility to start changing things as we go along which is very important to me.

So they come out and they certify you and they say, "Okay, we're going to give you a number now. The number says that you are qualified to sell your product anywhere in the world with a certification number that says that your product is clean". Eight years ago, 10 years ago, that would have been so, because the people that went into organics, (a) did it the hard way, and, (b) did it from the heart.

Last year, some skullcap arrived in China and somebody decided to test it, it was grown on certified land - but it wasn't. It was grown on tobacco land in Myrtleford riddled with DDT. These are herbs that are going down some child's throat, because don't forget that is the business we're in, which is medicinal and I'm not forgetting the culinary or the fresh side. Either way, they're going down your throat. There's no check on the fresh stuff. The TTA put very stringent operational procedures on the dried medicinal herbs. So what happens? The guy who does the certifying walks out the gate and the next minute the round-up comes out. This is too difficult. Oh we've got a little pest down there. Let's get out the herbicide and pesticide. And the end of day who's to know? There's no check, and that's what concerns me. I have no quarrel at all with the method of growing. I have tremendous quarrel with the way it is operated.

You say, "Well, how do you get over that?" I say, well retain your certification, I have no quarrel with that either and the more people that are certified the better. But the end of the day when we send our product to Howard or Mediherb or where ever, we have a thing called Thin Layer Chromatography Testing (there's a better method which is Gas Chromatography), and it's a sort of finger printing of the plant and it shows up colours. Mediherb rang me last year and said they had a yellow band and could I explain it. And I've got a fair idea what the bands mean, and I said I think you're talking about the dry period where we had another block and we didn't get over and water it. And he said, "Thank you very much, that explains it". And he took my word for that because he knew I knew what I was saying was correct. But at the end of every day if every product was tested at the farm gate, we don't have a problem, do we? We can get a logo and we can put it on the sack and send it over to China, or the USA, or the Germany, and we can guarantee that we have sent you a sack of clean herbs. If you want to put your certification number on there as well, well that's fine, but there's got to be a check at the end of the day.

Now, I've heard a lot of concerns here about weeds and about the practicalities of herb farming and where do we go and how do we attack it. There are all sorts of things being done. A tribe called Pestex are doing a tremendous amount of work on the pesticide. We're talking about urine being used as a weed killer. It's very effective, 24 hour old urine. There are natural things out there, if we look for them, to cope with our situation. I wouldn't be standing up here today if I thought, (a) it was too hard, and (b) I didn't think there was some future in the industry. We had a bit of doom and gloom yesterday. We also want virtual reality. So we have to find the balance between that and some people have to play devil's advocate, and I thoroughly agree with that.

So the certification process and the word organic farming leaves me a little bit cold. I prefer to call it clean farming and we're working very hard with some people in the Agriculture Department to get a logo for clean farming that does not exclude people who do want to use some chemicals. We're talking about a three tiered structure where we have A B and C. You cannot be polarised in your thinking. You have to think across the board. You've got to be lateral in your thinking. We will need growers for various things on broadacre cropping, that I as a herb farmer, would not do. Fifty acres of parsley, or 50 acres of this or 50 acres of that. So we need those people to be able to do that, and that's for a certain market somewhere along the line. But there's three criteria to me. If you have clean land and you grow a clean plant and produce a clean environment, I don't think you need to sit down and talk for years about the rest of the ideology attached to it. Another example, chook manure from down the road, there's no such thing as organic chook manure for heavens sake! The organic chook manure that came out this year, and I think that I'm right, was discovered to produce salmonella in medicinal plants. It had been dried and produced and it still produced salmonella! Okay. That would not have shown up under certification except it had a TLC test. That is my argument. You've got to marry the two together. You cannot be tunnel visioned. You have to look at the broad aspect. So that's basically all I have to say about certification.

The word organic, well I have a slight problem with it, but it's been used about 20 years and if I have a few things here that were said about it. Who watches Landline? Twelve o'clock Sunday or one o'clock Monday is it? Great program. Wouldn't miss it for the world. A lot of very good knowledge on there. A lot of excellent material. There was a program - who saw the program on organics in the U.K.? About three weeks ago. The Minister for Primary Industries in the U.K. set up the organics. They did a whole hours program on organics. It's customer driven, this is after 15 years of investigation and looking at the markets. Customer driven - too expensive - fringy - too few suppliers - the market in the U.K. is from 60 to 140 million and it varies. There's not consistency, it varies every year. Delivering to the markets is a problem. Co-ops are a problem and it's driven by the sound of the muesli brigade. I was quite amused by that. I think that might be a little bit old fashioned now. But, we are talking about an industry that we have to get real with. We talking about an industry where you are not going to get four dollars extra a crate for you kiwi fruit or your strawberries or something because it is organic. What the Americans say is, "We won't buy that crate of strawberries there if it isn't organically grown, but you're going to get the same amount of dollars for the one that isn't, because we are going to give you preference". Get rid of this ideology that we are going to get huge extra dollars in the future for organically produced product. But we will most certainly get preference from purchasers on a product that we can guarantee as being clean.

We're bringing this home test kit together, which they have been developing in laboratories in Germany, and the Germans lead the world without a shadow of a doubt in herbs. If you want to know anything you go to Germany. We're talking about a turnover of 60 million dollars here a year. The Germans turn over \$60m alone on one herb alone.

So what we will see is farmers being in control of their own destiny. You get caught once and you're out of the business. Like the young Uncle Toby's guys up in Queensland - they're both bankrupted, gone, because they got greedy, growing Vita Brix. Do you have any idea how much money the company put in to that Vita Brix promotion - organic. It was a lot of money. Two farmers come along who are growing certified organic class A, do well for a couple of years, get greedy. I'm sure the company also put pressure on them, said "We want more". Yeah, we'll give you more. Went next door, dieldrin - yeah forget it. Gone. Taken to court. Won't do it again - because they won't be able to. And there's been a lot of instances around in the last year of people fudging on the organic market and that's the quarrel I have with it. There's got to be some sort of control and regulation, and self control is probably the best. We know our market, we know where we're going and if you are going to go out there and do the wrong thing and produce something that's chemical ridden, you won't get a second chance? Random testing, batches, etc. So there's an awful lot of hope in the industry because it's still a very young industry and there's still an awful lot of things going on and going to happen. Okay, yeah, I've heard the market in Australia is going to be saturated. It may be for a year or two, but that doesn't stop you people from getting out there and starting, does it? Because if you do it the right way, you do it over a five year plan, all our growers work to a five year plan.

I see a three layer classification - A, B, and C. We have C classification for vegetable growers who utilise certain chemicals and always have done and always will do, and we're talking about the fresh market here. And because of that we cannot give them an organic certification. We'll have people in between who want to try to do it a little bit better. Who want to learn new methods, who want to green crop, who want to mulch it back in, start using mulches, different irrigation systems and whatever, they are still using bits and pieces here and there that are not ratified by organic terms. And then we have the top layer, the A level, where everything is totally guaranteed that it is grown under what I call clean farm conditions. So what we're proposing is clean farm logo, with three classifications in it. Now, we haven't said that the top classification is organic. They want to come into that, that's fine. If they want to use their own certification process, that's fine. I don't want a 'them and us' situation. There's the total industry, either a fresh herbs or dried herbs.

Last weekend down at Bendigo, Eileen and I held a forum for all our growers. There was one year and two year growers there. And we just thought it wouldn't be a bad idea, because we had so many requests. And we had a wonderful weekend, absolutely fantastic. And we broke up there and we formed a registered business called the Australian Herbal Connection Network Group. And we have a very loose structure on that, but basically the growers themselves are going to help themselves and we are going to do the marketing and the administration with them because we're also growing. Travelling around the country and looking at organisations and at the end of the day, the people who are interested in growing getting together and forming an association. I just say to you, go in there with the right spirit. Go in there with the right attitude. Go in there from here, because if you don't I've seen so many groups around the country just splinter off in the last six months - why?

Well, we're lucky with our growers because they range from Mildura to Portland, to Eden, to Longford outside Sale, to Warragul, Ballart, Bendigo, Geelong, so they are scattered all around the place, so no envy, nothing comes in there to disrupt that and nobody's competing against each other because we have the market for them and therefore we are able to divide the product up around the table. But in the groups that I've seen that are Government grants - this free lunch business again. We've had Government grants thrown at us three times and we've turned them down each time. We don't need a Government grant to do what we're going to do - we're an industry! May be we'll take it up for the connection network later on, for a girl and a computer to get all the figures that we've completed over six years of trail plotting to pass on to other people. Evaporation rates. Yield per hectares. Plants to plants per hectares, and all the possible problems that come with that. You've got it get in there and all go in to help each other.

We started growing herbs in 1989 and we grew a row of *Echinacea purpurea*, nobody had heard of it then and I'd already started a herbal course with the father of medicine, who's not very often mentioned these days and he is the father of medicine in Australia - Dennis Stewart. Very nice man, been running herb courses for the professional trade for ages. So I went to do a course in herbalism because I thought, well I'll be a herbalist. So I did two years, and at the end of the second year I was sent a little note from the T.G.A. Therapeutical Goods Act now says that you must have a Diploma of Medicinal Science to go with your herbalist course. And I thought, well that's very good, and I look at the bottom line and I saw another \$4,000 and another year onto the course and actually having to go and work inhouse for a little while.

Now I can talk to buyers about what level of activity they want because as more competition comes into this market place what is going to happen it that purchasing is going to come down to volatile oil activity and the plant activity. So that means we're going to start using refractometers to measure our plants and when they should be harvested like they do in the grape trade and the kiwi fruit trade. That means we are going to get professional in what we are doing. We're going to sit down and do a business plan. I want to emphasise, you must sit down and do a business plan, because if you don't do a business plan you haven't the vaguest idea where you're going. Now, if you do a business plan and don't stick to it, doesn't matter - you've changed it. So sit down and write another one with the changes that you've made.

In our third year we set out a business plan. We went to a course, we did a lot of things, and we budgeted \$11,250 income from two acres of herbs. We achieved \$11,120 of our budget. Though that wasn't done without difficulties and problems and what we did was, we cultivated the ground because our pH was 3.5. Anyone got pH at 3.5 here. Oh God bless you! We can improve that, that's not a problem. We go onto this farm. We're leasing and if you don't own a farm, don't think of buying one, those figures up there. \$6,000 for an acre - lease, there's plenty around to lease. A lot of people are walking off farms. You don't need a big area. Actually the smaller it is the dearer it is. So, we go on 3.5 pH! So we work very hard for two years to bring the acidity content up and we mulched in seedless hay. Anybody ever heard of seedless hay? Isn't it amazing what terminology we use - seedless hay - my foot. We grew the best crop of rye grass in the middle of our herbs I have ever seen in my entire life! And these buggers are deep rooted aren't they, they don't want to come out. I could have ploughed the whole lot in as green crop, but there was a bit of an investment strategy in the ground, which I'd done a business plan on. I was going to have a little bit of a problem with that. So I went round with a garden fork and manually dug up rye grass, which I then put in the compost heap. So we found that looking after that was quite a trial, there was two acres there.

We did our rows, and we planted metre wide beds, we disked it, and we cultivated it with a tractor and a rotary hoe and then we mowed it up. We grow the horticultural way, and there's a very good reason for that, because a raised bed, ecologically, is far sounder than the flat, because all sorts of activity starts to happen in raised beds that doesn't happen on the flat. So we raise our beds and you can disc them up or you can use what they call a bed form or a bed maker or a ridger. A ridger forms a furrow, the tractor goes behind the furrow wheels and makes a bed about a metre wide and it's raised up a little bit so you don't have to bend down and then you can plant. And the plants are in there, and at the moment they are planted by hand. So we raise our seedlings, or cuttings or whatever and then we go out and dig and we try and get something happening.

We grew 38 different types of herbs and trial plotting. There was a row of this and a row of that. We weren't trying to earn money, forget it. What we needed, because there was no information in the industry, we needed the facts and the figures, we needed the yields per plant, the evaporation rate on that plant, in other words how much moisture it lost in the drying process, and then at the end of the day so we have an acre of this stuff, what is the dollar at the end of day because, although we enjoy what we're doing, we're in there for the long term and it's got to earn money. We are talking about business. And the problem in the herb industry has been that people take it as a life-style and not a business. "Yeah, I want to grow herbs. Ahh, get my fingers in the soil. Great"

You have spent money to come here to learn, may be how to do an alternative or complimentary farming to what you're already doing to earn a dollar, because the other side isn't working very well at the moment. But don't repeat mistakes of what you've done before. So look at it with a fresh ideology. We're moving to a new property maybe in two or three years time, up near Myrtleford, and we'll have a bit more land to play around with and we do a lot of trial plotting and trial testing on different herbs. There's a lot of them that you haven't heard about. We've talking about skullcap, meadow, sweet, passionflower, hyssop, which is both used for dry flower and oil. And there's another on the oil side.

Water chestnuts we've been trialing for two years. We're talking about a very broad range of things. When you get into this business you're not stuck with the parsley, the chives on the fresh side, or the echinacea or the skullcap on the other side, because we're going to start having over production. When everybody starts growing lemon balm we'll probably have an over production. You're got to look at all the other alternatives that are just as easy to grow. So you've got enormous potential for business and all you've got to do is start by cultivating a tennis court size plot and going over a five year plan. First year, second year double your plot, third year go into about an acre.

So there's an awful lot involved in herb growing because it's a new industry, but it's not that difficult, but it's like anything else, you just do it one step at a time. Okay the first year you outlay \$2000, including consultants. The second year you'd outlay another \$2000, extra plants, etc. At the end of the second year you should get your money back, less your labour, you won't get your labour back. In the third year, dependent on what you grow, you can look at anywhere from \$2,200 an acre to \$34,000 an acre, and everyone says "I want to do the \$34,000 one". Wrong! You must have a mix, you must have a spread. You can't do it because there's not enough demand for that herb anyway. It needs a certain soil. We visit every farm. Someone rings up and says, "What can I grow up the Murray?" I said, "My God". I don't know until I get there and we have a look, see what your topography is, see what your soil is like.

There's one thing we insist on before we do anything and that is you have a soil test for toxins. \$50 - well spent. So before you go anywhere the first thing you do is have a soil test. Peanut Company of Australia, Kingaroy, Queensland, because of others in the trade put on a second guy in the lab to do soil tests. So get a soil test done, cultivate and say, "What'll I do about the weed. We have all sorts of ones where we are. You get onion grass, you get cape weed. It's all good green mulch. Stick it in the mulcher. We start our mulch pile off with saw dust, kiln dried hardwood saw dust. We don't use pine, and we don't use wet and we mix everything in with that. We use bags of organic fertiliser and we mix pea straw - beautiful mulch pea straw all finely chopped up. We put newspapers in, and I believe the organic people allow newspapers now - why suddenly the change? That's why I ask about this thing. You can't chop and change. You either have it down the line or you don't. And we make our mulch heap and we start at the beginning of the season so that by the end of November when we're putting out plants in the grounds it's cooking there nicely. You turn it over and have it nicely mulched. Then we mulch the rows and that keeps the weed out. You cultivate, you plant, you push your mulch. We use weed mat. You get it from the cloth manufacturer, 1.2 metres wide, put it down the row, put the mulch on top - bingo. Don't do very much watering at all. Keeps your irrigation down, keeps everything down.

There's ways of doing this, and there is an industry there or I wouldn't be standing here, and it is going to be viable, but we must not all jump on band wagons and all try and do it together. We must have a plan, must do it logically - find your market. May be it's overseas. You are the market! You who go to your naturopath and she says your systems a bit down, you're looking a bit yellow, looking a bit tired, better get you on some marshmallow, better get you on this, on that, and she reaches into the cupboard and takes down a bottle and sells it to you. You are the market. You are the end user, and as the end user you will drive the industry.

Anyway, personally, if you want to go into it, I think you should have a go. The market is going to expand as the growing expands. Watch these highs and lows business. All we need to do is sit down and plan properly about where do we want to go. Why do I want to grow herbs? Is it for the money? If it's money originated forget it. You'll be gone tomorrow. Is it the life style? If it's totally lifestyle originated you'll be gone tomorrow too, because you'll be broke. If have to put these things in a melting pot and put them together and say it's a lifestyle I want, but I've got to be able to afford to pay for my lifestyle so I must grow and I must do it this way, that is my market. Who am I selling to, why am I selling it, and what sort of product. We didn't do this when we started business, we did it in fourth year I think it was. Our company's Mission Statement. The mission statement of our business is: Quality of Service - Quality of Product - Quality of Life - and Profit Without Greed.

NETWORKING FOR PROFITS

TORONTO LANE - Brian Norwood

What is networking? It's the buzz phase, everybody's talking about it at the moment. It's been around for years. There is absolutely nothing new about networking. The cooperative, the collective, has been the backbone of Australian agriculture for literally centuries. Many sectors of Australian agriculture still revolve around the cooperative as you know - the dairy industry, the seafood industry, the fruit industry. It's as though somebody suddenly arrived at this phase "networking" as though it's something new - it not. It's been around for a long time. What is it? And what's it do?

Networking's about people with a shared objective working together and if they don't have that common objective, if they don't share it genuinely, then it's unlikely to work. There's something more important about the shared objective, it's an objective that anyone in the group that's thinking about coming together, can't achieve that objective individually. Obviously they need to get together. There's a market that they need to service, to promote, to pull together. You don't need others if you can do it yourself. So the whole idea of networking is a group coming together to do something that individually is beyond their abilities for various reasons.

So what is networking? It's easy to say that we'll work together, but what does it literally involve? It's finding joint solutions to problems. It's doing that through sharing an individual's particular strengths and skills. It also breaks down your costs, much easier if you're going to employ somebody, or you have to purchase a particular piece of equipment, undertake a promotion program, if you can spilt that between six or seven of you it's a lot cheaper than if you have to pick up those costs individually. It improves purchasing power, whether it's buying seed, buying fertiliser, whatever it might be. If six or seven of you go to a retailer you're likely to do a better deal than if you go alone. Research & Development, same thing - if you can pool your resources and skills if you're looking for something to overcome a particular problem, again better if you can do it in a combined way than if you try and do it by yourself. And that last one, when you get into the marketing side of things. Many of you would have already experienced it, whether it's in herbs or something else. It's so much easier if you have a reasonable volume when you start talking to potential buyers. If you've only got a small amount of product to sell it's very hard to interest somebody on a regular basis. Once you have that volume you can really speak, you're so much more likely to achieve a reasonable reaction from the buyer.

Those sort of things I'm talking about could apply to anything. They could apply to the local tennis club, the parents and citizens at a school. That's the general principle of networking. Obviously if you're looking at the business network, it's got a slightly different thrust. So what does networking really mean in the business sector?

It's groups working together to get additional results. It's not just working with somebody to do a bit more of what you are doing now. It's getting together so that you're doing on a combined basis things that will give you more business. And when we talk about a network, we're really talking about three or more, two is a partnership, so the word "networking" particularly when you start looking at the government schemes, you're looking at three or more groups coming together to do these things. And what's been the experience both more recently in Australia, but certainly internationally, is the value in bringing an outsider, the so-called network broker, into a system for formation of the network. This is someone who's got experience in putting networks together, somebody who knows the potential pitfalls and can hopefully steer that new network, particularly in the early stages, around those problems that will certainly come up. I think the last point is one that's particularly critical and this is where a lot of people misunderstand, you are encouraging people to keep up their own business, you're not saying give up your existing business and put it all into the network, you still maintain your core business. The network business is something additional. It's going into a new market, a new activity.

There's obviously many factors that are going to make your network successful. Some are just common sense and you'll recognise them, but without these the network is potentially headed for a lot of problems.

I said right at the beginning that the whole idea of going together is that you have a common objective, a common goal, well that's fundamental. You're probably looking at it through the eyes of herbs and I can understand that, but in any network the group have to have that common goal, a common objective.

If you've got half a dozen different objectives amongst 10 or 12 members of the network, it can't work, you've got to have the same objective if you come into the network. You've also got to have a commitment from those groups, a real commitment to the network. One of the things that I've found in working with networks over the years is you get two or three different speeds which people want to move and the broker is sitting there on the one hand trying to prod some people into action and on the other hand trying to restraint people. Usually if you don't do a bit of motivating you'll find that the speed at which the network runs will be at the speed of the slowest, the one who wants to hesitate, to wait back, to make sure everything is really right, that's the one that you've got to spur into action. The other end of the spectrum is that you've got the people who say, "Yeah, let's get on with it. We want to do it, we want to do it tomorrow", so again you've got to make sure that the participants are committed to the network and they're committed to work with the network at a pace that makes sense to whatever it is that that network is trying to achieve.

The next two, as far as I'm concerned, really make or break the network - compatibility. People have got to be able to get one. It's one thing for the products to be compatible, they may all be herbs, they may all be food, they may all be seafood, but if the people can't get on quite frankly, again, the networks doomed to failure. Networking is a people thing, it's about people being able to work together.

So if you don't have that compatibility, if you don't have the trust that's got to build up and got to build up quickly, again I'd seriously question whether or not that network can succeed, and to do that you've got to come into the network with this open mindedness, preparedness to think laterally and preparedness to be innovative because usually the network is doing something new, it's doing something different and you've got to be prepared to look positively at that new concept. You've got to find that the group bond together, they are prepared to start to work as a team together and that, when you're an independent broker sitting there, that's when you really start to feel that the thing might be working when you see people that haven't met before, haven't talked much before, when you really see them starting to work together. The best thing that you can see is when you finish a meeting and they go off down the pub and have a beer together, they don't just hop in the car and go home. You know they're starting to work together when they're starting to think as a team and work as a team. The other point there is, I mentioned a little while ago, the role of this independent person, he's not one of them, he's not a herb grower, he's not a fisherman, he's not a dairy farmer, but he's somebody who understands how a network needs to be moulded, the problems that will come up, and that person working with them, it has been found from experience, is far more likely to be able to get that bonding, particularly if the group don't know each other.

What can be networked? What can you do together? Really you can network anything - quality, you can network marketing, you can network promotion, you can network purchasing - whatever it is that you want to do. In fact, one of the things that I've found is, obviously networks come together so people can make an extra dollar, there's no point in a network getting together if there's not some attraction and it's usually a financial attraction for people to work together. The easiest and quickest way to get that network up and running and to get people genuinely believing in networking, is to do something where they can see a result quickly. There's nothing more frustrating for a network coming to meetings talking about what they're going to do and hoping that things will start to develop. Unless they can start to see some merit in coming to these meetings, some physical results - it doesn't have to be exactly what the group are coming together to do, but it can be the bonding, that thing, that starts to make them believe in networking.

The example that I've quoted before is a group of vegetable growers I was working with in Northern Tasmania about 12 months ago, I don't know whether there's anybody from Tasmania here, but the communication/postal system over there isn't all that good, and we'd be sending out minutes, we'd be sending out agenda's for meetings, and you'd get to the meeting and two weeks later you'd find that half the people hadn't received their agenda. I think there were 16 in the group and of the 16 only five had fax machines and this was about the third meeting and I got a bucket tipped all over me because the agenda's hadn't turned up or the minutes. I said it would be a bloody sight easier to get things out to you if you had a fax machine. There's eleven of you that don't have fax machines. Well at lunch time the 11 went down the road to the local fax dealer, bought 11 faxes and got them for, I think, one third of the price. They were very happy, the fax dealer was very happy, and suddenly they could see there was some value in networking. They hadn't sold one extra vegetable, but they could suddenly see there was something worthwhile in this whole idea of networking. You can network anything, anything that's sensible, anything that's logical.

What shape, what forms do networks take? Well the book says that there's three specific types of networks that you find mostly. The first ones are the so-called production/marketing network and that's where the group comes together specifically to jointly produce something, they might share equipment, they share facilities, in the timber industry they might share a kiln drier, whatever it is, they might come together to market a product. It can be that market oriented.

The other one, and that's very prevalent in the food industry is this 'lead firm' network, where there is a major user who wants to guarantee they are going to get the raw materials when they want it, in the volume they want, and obviously to the quality they want. So networks are effectively formed at the inspiration and the initiative of that lead firm to make sure that the suppliers are bonded to them. And of course you can have networks where you're not physically selling a product, but are selling a service and there's been some interesting networks working in Asia where they have come together to design things or to provide medical services, these sorts of things where you're not physically selling a box of herbs or a box of meat.

So if a network's going to work, as I mentioned, then the compatibility, the ability of the people to work together really is fundamental. So when the members of the network, or that independent broker, or whoever it is that is thinking of putting the network together is looking at what needs to be done to make it work, there's really two things that you're looking at in selecting the potential members of the group.

There's that new buzz word, synergy, "business synergy" it means getting on - they really can work together. The other thing comes back to that individual style, what's motivating them to want to be a part of the group. Will they be able to develop trust between each other? So they're the things that people should be looking for when they are saying "Can this group come together? Does it warrant trying to put this group together?" The compatibility of the product and the people - the real question is that very simple one that's up there - "Can they work together to take advantage of the market opportunities?" That's what networking's all about.

So, it's one thing to be invited into a network, and it's one thing to have people to stand up and tell you all the virtues of networking, what you're going to get out of it, but anyone who's thinking about coming into this network, they really should have some concerns. It's not all glory, it's not that all things will fit into place, and as individuals being invited into the network, there are specific things that should be running through your mind, and what I find as an independent person helping form these networks, a lot of these things won't come out in the first few meetings, because, again, people are going through a learning process, learning who these others are, learning about the background and what these people want out of it. An independent person will go around and have individual meetings with each member of the new network or the potential network and it's at that meeting where individual concerns really should come out.

Important issues are:

Loss of independence - if you go into a network you somehow lose your own independence, lose the ability to run your existing business exactly as you want to run it. Are you somehow being threatened? Is it possible that you may be forced into some sort of merger because you've become part of the network? The network could involve setting up a new company. You somehow lose your company - does it get forced into this new entity?

Then there's the worry about people being diverted from their core business. Are they going to get so involved with whatever the network is doing that they are going to lose sight of their own activity?

There should be some concern about how this new entity is going to be controlled. Who's going to run it? Who's going to have the most say? Is it going to be the person with the loudest voice who's going to dominate the decision making in the meeting? Is it the person who's the biggest in the group? What is it that's going to happen, so that they can have a reasonable say in the operations of that new entity - the network.

Resources - We all know every small business man is working his guts out now anyway - is he going to have enough time to put into this new entity? The people you've got employed, they're working flat out too. So, are they going to be able to be allocated something to do with the network?

The last one I find is probably the most daunting when you go into a new network with a group in the same business, and that is that you're trying to convince people that they should work with some others who have been their competitors, literally sometimes for generations. I can remember one particular meeting I went to, it was in the cut flower industry, where there was an opportunity in Japan, and I'll spend a bit more time on this in a minute as an example of a good network as it finally worked out, but the first meeting was called, naively, by me, I just invited everybody to come into a room. I think apart from me talking continuously, there was only about half a dozen words said, because these people just didn't trust each other, they'd been competitors for years. It was interesting. It is a major challenge. If people have been competitors you have to recognise that and find ways to try and break that down.

So there's some of the worries people should have about a network. They can all be answered, these are all things that obviously there are answers to, but they are all things that should be concerning you or anybody else when you're been invited to look at coming into a network.

On the other side of the coin, of course, there's some very real benefits in being involved in a network. Some very positive possibilities come out of networking and working together.

Increased commercial leverage - it's not just buying fax machines, but again if there is a group of you doing things and you've got more volume, you want to negotiate with a contractor or a insurance group the bigger you are, the more of you there are, the leverage you're going to have commercially in getting things done.

I find this second one, this sharing experiences, is probably one of the most critical things that people later say was one of the real advantages at the beginning when they came into networking. Each of you think you know a lot about your own business and what you've been doing, but it's amazing when you hear people starting to talk about their experiences, how so often others haven't had that same experience, they haven't been in the same situation. So just by sitting around the table sharing experiences in business, it's amazing just how much people pick up little things that can be to their benefit even though you, the person who is explaining it, you just take it for granted because you've experienced it for some time.

Pooling information falls into the same category. You might know a lot about particular markets or particular production techniques and you might assume that others do, but they don't necessarily, they haven't had that experience. So pooling information is another very very valuable thing that comes out of people working together.

Pooling resources - This particular flower growing group that I mentioned, found that when they did begin to export, of course, they had to fumigate, and one of them had a fumigation plant, so it meant that rather than the others all having to install a fumigation plant, they were able to use that one piece of equipment which was imperative, but it saved everybody a lot of money.

Improved business efficiency - This is another one where I've had people lately who've been in a network and come to me and say "You know I learnt a hell of a lot about running my business better just by talking with other people in the group". The other things that I've found is very interesting too, if you do look at putting a network together, the ideal is that you have your first meeting of the potential group in a so-called non-threatening environment. In other words you have it in a neutral territory, you have it in a pub room, or in your office, but you try not to hold it in the meeting room of one of the potential members of the network, because people automatically think, "Oh, they're going to run the network". But then after you've had your first few meetings in these independent environments, the idea then is to move it round so that you have meetings in each of the participant's premises, and it's the best way of guaranteeing that everybody's going to have beautiful, clean, efficient factories and offices when you walk in, because they want everyone to think that it's always that spotless.

The last one but it's a reality - networks do enable people to put more pressure on Government. The policy, the finance, or whatever to might be. The group have a louder voice when you're talking to governments, you're talking to government officials, talking to ministers, you're more likely to get a better audience if there's a group talking than if there's one individual goes.

So there are some of the benefits of networking and to me as I said the key to successful networking comes back to that work "trust".

It's a bit corny, but to me it sums it up.

The first thing is time - people have to put sufficient time in if the network's going to work, and that's all members. There's no point in having a network of six or eight people if only four or five turn up. And the other thing that's critical in a network is that the people who come to the meetings have got to be a position to take decisions. There's nothing more frustrating to the other members, in fact it slows it down, if whoever's there says, "Oh I'm sorry, I really can't comment on that, I've got to go back and talk to the boss". Whoever is there has to be of sufficient seniority to be able to make a sensible contribution to those meetings.

The second one is respect. You've got to build up that respect amongst members, the trust amongst members, if it is going to work. And I use the work "unburdened" because it's all very well for people to talk about their worries to this individual broker when he goes around and sees them individually, these things have to come out on the table at the meeting as well. It's no good saying one thing at a meeting and then saying another thing to the broker.

If there are major problems that are worrying people about being involved in a group or the direction the group is going, they've got to be prepared to say it in the meeting and get it resolved.

One example that I've used before where I saw a network really go down the gurgler because people weren't prepared to do this was a few years ago in the fruit industry, where four major packing houses agreed to come together because they had a very good opportunity in Europe to sell their particular product. They'd been competing for years, they'd been frustrating each other for years, but the volume that they were being offered none of them individually could service, so they realised that they had to start working together and they started all the conversations, yes the price looked all right, yes the volume looked all right, yes they could all pack it, yes they'd be able to ship it out. When I joined them, I came in to give them a bit of advice on the marketing side and it wasn't so much the forming of a network because they had already agreed that they were going to do this thing together. And I was running through the usual check list of things that needed to be looked at, and we got down to quality control. I said, "Now, quality control. There's four of you, you each have your own packing houses. You're now going to pack under a common brand, who is setting the standard for quality control?" There was a lot of feet shuffling and looking in the air, and they said, "Oh don't worry, we can sort that out. We're all very good at quality control". I said, "Yes, that's fine, but you're going overseas, you're going in a common brand, one hiccup and you can blow the whole thing". "Oh, she'll be right, don't worry. I left the meeting and was back in my office about 10 minutes and the phone rang and I had calls from three of the four, each saying, "We really couldn't say it in the meeting, but our stuff's really good, but Fred's stuff is terrible. He's lousy." I said, "Well you've got to say this." They said, "Well, we can't." Fred was a great big bloke and he had the biggest packing house and I said, "Well this won't work unless you can get your quality control sorted out." And they said, "Well, can't you tell him?" I said, "Well, I'll raise it at the next meeting. I'll try to raise it with him before then, but if it's not resolved it will have to come up at the next meeting". So I rang Fred and after beating around the bush for as long as I could, I finally said, "Fred, quality - everything all right at your place?" "Yep, tremendous. We're tops, we're number one. We'd be the best in the group". I said, "Oh, everybody think that?" "Oh, yeah, yeah. I'd be acknowledged as the number one". "Ever had any problems?" "Nar, never a problem". I thought, well we've got a problem now! So we went to the next meeting and I rang each of the other three beforehand and said, "I don't think Fred acknowledges it, or if he does he certainly won't acknowledge it to me. You're going to have to back me up when I raise it." So we went down the agenda and there was quality control and we got to quality control and I said, "Now last time we decided not to have a quality control manager. Have we had any rethinking on that?" I looked and three heads immediately dropped, the eyes went down to the floor, and Fred stared at me and smiled. I said, "Anybody want to comment?" Not a word! So we passed over that. The first shipment went off, it was very successful, the second shipment went off and there was a quality problem, and they lost the contract, this was about three years ago, and I heard about three months ago that they just got it back. They've been out of that very lucrative market for a couple of years, simply because they weren't prepared to be realistic about a problem.

Satisfaction - obviously, people are only going to go into this if there's a dollar for them. You don't come into networking just because it's nice to sit around a meeting table having a good time talking to other people, there's got to be a dollar in it for other people. There are other ways, business efficiency improvements, but there's got to be a dollar there.

Team work - it's not a corny phrase to say "Without team work, the network won't work". There's got to be team work there.

That's really the way I see the basic principles of networking - what's got to be involved and some of the principles about how you put it together.

I just wanted to look at the two types of networks that most frequency come up and they're simple. One's a market driven opportunity and the other is the supply driven network. The example I'll give you in the market driven one comes back to that cut flower exercise that I mentioned a few minutes ago, and by market driven I mean that there is a marketing opportunity available and the network would be coming together to take care of that marketing opportunity.

My experience is that that sort of network is far more likely to get up quickly and certainly more quickly than the supply driven one, because quite often the market opportunity is only there for a limited period and therefore if people are going to taken advantage of it they've got to get their thinking and their organisation worked out very quickly.

This particular example is, I was doing some work for a farming group on the outskirts of Melbourne who were growing a particular type of carnation and they'd bought the rights of it from an overseas botanist. This carnation had been trialed, it had won a lot of gold medals in Japan, it was much longer stemmed, it was a much bigger flower, larger petal count, a whole variety of things, including a very strong perfume.

And it had been shown in the Osaka flower show and had won all the gold medals and so these people were very very pleased and said, "It sound wonderful. It looks like we'll be able to make a lot of money selling these in Japan". They came to me to talk with me because I had a bit of experience in marketing products in Japan. I didn't know a lot about flowers, but I'd made a lot of enquiries and found that there's an enormous market for cut flowers in Japan, many billions of stems every year go into Japan. And we set up by phone and fax a series of meetings and went to Japan and met with something like about 18 of the leading flower importers in Japan. As you probably know, virtually all the flowers that go into Japan, go through the auction system, they have huge auction houses there. When we spoke to the flower importers they made all the right noises and said, "Yes, this was a very attractive flower, it should be very successful. We'd be happy to handle it through the auction system. We'll take our 5% and we hope there's something left for you". Now it didn't sound particularly attractive given the vagaries of the Japanese auction prices for flowers. We were also introduced to Japan's largest florist retail chain, they've got 123 stores throughout all of Japan, very very up market florist shops. I'm sure you're also aware, the Japanese are very fond of large floral arrangements and the florist chain could see the virtues of this particular carnation in those floral arrangements and said they were very interested. However, and the however was, they imported direct and not through the auction system, hundreds of thousands of stems each week, but they were bringing them virtually all in from Holland, even to the point where they had their own people in Holland inspecting before the stuff was packed. And they said, "We could be interested in sourcing from you, but we're not interested in sourcing just one variety. We'd need a minimum of eight varieties from Australia to warrant us setting up a different import system, documentation system, payment system. Now here's the list of the forty varieties that we bring in every week, if you can find another seven then we'd be interesting in dealing with you and your carnations". And they mentioned a price, and the price was extraordinarily attractive. So we came back to Australia and quickly decided that the auctions system wasn't the way to go. I said to them why not have a serious look at this retail florist chain. They said, "Well, we don't have another seven varieties". I said, "Well, that's easy. Let's find another seven growers each of whom have got a good reputation for growing something on this list". And they just shook their heads, and I said, "Well, aren't there people here who grow Proteas? Aren't there people who grow Banksias?" They said, "Oh yeah, but we wouldn't work with them". I said, "Why?". They said, "Because they're so-and-so's, they've been undercutting us in the domestic market for years. There's no way we'll work with them." I said, "Well just humour me. Let's go through the list and give me a couple of names alongside these varieties". And so we finally got eight varieties and eight names of people who were well known for growing very good quality in those particular varieties. And that's when we got them into the room together and that was that disastrous first meeting. They just glared at each other. Barely talked, just said it was a stupid idea and who was this idiot called Norwood who'd got them to come to this meeting. But I said, "Well, look, okay, apologies for wasting your time, but take this away and this is the sheet that the prices that are being offered for these varieties in the last six months." And I'd done enough research to know that the price was something like 30-40% higher than they'd been getting for the same period on the domestic market. So they went away and I then phoned them each individually and said, "What did you think?". "Oh yeah, tremendous, I really wish I could get into that. Can't I do it direct and not have to deal with those other blokes?" Anyway we persevered and this year will be the forth year that they have worked together as a group and this year they'll put a couple of million dollars worth of flowers into Japan, using a common brand, using a common packing house, using common fumigation systems. They still don't particularly like each other, but at least they smile now when they cut each other throats in the domestic market. But it worked, and it worked for some of those basic reasons I just put up on the board, and that is: there was a dollar there, none of them could do it individually, they had to be able to work together, and it was too good an opportunity to miss. The fact that is was a marketing opportunities made them focus on it and it made it them come together and resolve the basic problems that they thought they had quickly to take advantage of it and it's worked, and it's worked quite well. And that all come together in the space of about six weeks. I think, the average time in normally circumstances when people first start talking about the concept of a network, until the network physically starts doing things, I think the accepted rule is something like about 12 months. So if you can get something up and operating within six to eight weeks you're doing very well, but I'd suggest that will only happen if it's a market opportunity driven network.

The other one that I'll just quote quickly is on the supply side, and this was a group of farm house cheese operators that I worked with in Gippsland. Each of them were quite small, they were dairy farmers who built a cheese factory on their farm and they were selling their cheese, but they didn't have sufficient volume to really interest any major wholesaler or retailer, so they were literally putting it in their own vans, they were driving it, they were delivering it to restaurants, (sounds probably very familiar to you people), and they were doing it all themselves, each running their own van. The idea was that they were all thinking of expanding production, their cheese production facilities because their milk flow was going up quite dramatically, but they didn't really want to take that step if they didn't know where to sell the product and they were looking at either expanding their domestic market or looking at going into export markets. They too came together after a fair bit of tooting and froing.

It was a slower process because there was no immediately marketing opportunity, but ultimately, after about 12 months, they did start to work together in joint promotions in Australia and it did start to have the effect of more interest from some of the wholesalers who were prepared to handle their product. They immediately rationalised their delivery system, so instead of each of them driving their van three times a week, they took it in turns, they started promoting jointly, their sales went up and three of the companies have already expanded for the second time their production facilities. In the last few weeks they've just sent samples off to a specialist retail outlet in Japan and it looks as though the opportunities there are very very real. It's a successful network, but it's one that's taken a lot longer because there wasn't the immediate market opportunity. They have the product that they needed to get rid of, but there was nothing immediately there and it took longer, there was less pressure because there was nothing immediate that had to be answered.

So you'll find the distinct types of network as you go through. You'll find your market driven one, and as I say, I think you'll get people's attention very quickly because the dollar is hanging there straight away. The other one, the supply driven one, needs moulding into shape and it needs moving along, as I said before, you've got to try and keep the momentum going, you can't let it get bogged down to the speed of the one who is procrastinating, it's go to keep moving.

The opportunities are very real. In the rural area, and particularly in the food sector, there are enormous opportunities for networking and when you hear Les Leckie speak this afternoon about the number of applications that have come in for the Federal Government's Business Networking program, I think you'll be quite surprised to see what the response has been to this initiative to try and promote principles of networking.

OPPORTUNITIES IN NETWORKING FOCUS ON HERBS CONSULTANCY - Kim Fletcher

What I want to talk about specifically is one section of the development of the herb industry, and that is, the development of the grower's network. I think it was Mike yesterday who said there are seven grower's networks in Australia at the moment. Well, I hate to correct that, but there are about two dozen. You may not hear about them, but they're out there and are all working toward the same goal and that is getting themselves established in the industry.

As Brian said in his talk, networking is not a new concept, though it has become very much the buzz word. Anybody in the industry who is already established, the end users and the growers, have established their own network over a period of time and perhaps do that to enable them to get sources of supply, to find markets, whatever. It's something that happens naturally when you're in a business situation. But what's happening in the 1990's is the emergence of organised, and some of them quite visible, grower's networks, or groups of grower's networks, and they are intent on taking a share of what they see as an enormous market for herb crops, both here in Australia and overseas. Whether that market is as enormous as people are saying and whether it's as easy as some people think to enter the market, you'll have to judge for yourself.

The move towards networks is a logical step for what is basically still in the main a cottage industry situation. We do have large broadacre cultivation of herbs and that's large in the herb sense not necessarily in the agricultural crop sense, but most of the production is of a small scale, intensive type on small areas, anything ranging from a back yard up to one or two acres. In most cases that sort of production is supplement income rather than the main source of income, and that's what a lot of people like, and if that's what you want that's great, but if you're looking at a larger source of income or working with herbs full time, then sometimes it becomes very difficult for you on a small acreage to meet your goals and to expand or to earn a large income. That's where the grower networks come in.

If you're growing on a quarter acre to a half acre you often find it makes a lot more sense if you join with other people in a similar area on a similar acreage to look at the market together. So the only solution for a small grower who wants to get better returns or a share of a larger market is either spend money on expanding or to combine forces with others in a similar situation and this is where networks come in.

Networks can offer a lot of advantages over the individual grower and that's what Brian was speaking about a moment ago. Networks that I've had dealings with are offering their members a lot of benefits which I want to talk about, because some of them I have to be a bit wary of.

Let's look at the benefits for growers. To the buyers and the growers networks can offer, or should be able to offer, a reliable source of large quantities of competitively priced herbs which are of a higher standard than traditional sources. That's the aim, that's what your aim for and that's what the market would be very happy if you could provide. So what are these advantages to growers? Well, you can bulk up your crops and rather than trying to find a market for one, two, or five kilos, you can bulk it up with other growers and find a market for a larger quantity, sell it together. It's a lot easier to sell 30 kilos of a herb than it is to sell 6 lots of five kilos each. Bulk quantities keep the end users happy. There's less work for them involved, there's less cost involved, and they are not interested in small quantities from lots of different people. What you have to remember, of course, is that while you're producing a large quantity you have to produce the highest quality possible, you certainly have to guarantee that you are presenting it to them in the appropriate way, and basically you have to guarantee that you will accept the price that they are prepared to offer.

The second thing that some of the networks I've been involved with are offering, or saying that they can offer their members, is a better bargaining position. Now that's false. As far as the industry at the moment is concerned you haven't got a bargaining position as a grower unless all of a sudden you find that there's no amount of your particular crop available any where in the world, then you can bargain, great, they might give you a premium. People who are growing top quality organics may, and I say *may*, receive a premium from some buyers, but on the whole you're subject to the buyers whim, if he wants your product and is prepared to offer you a price you either accept that price or you find your market elsewhere, but you really don't have a bargaining position in the industry at this stage and it's unfortunate that networks see that as one of their big points.

The other benefit is the economies of scale that Brian was talking about. If you can join forces with other people in a similar situation you can share machinery, you can share facilities and you can share the cost of things like propagation material, packaging material, even your rubber bands - buy a large lot rather than a small lot. You've got the economies of saving in that sense.

Access to information, both agronomic and marketing - there are benefits in networking as far as that's concerned. As potential growers a lot of you will have been ringing around Australia to try and find information and you may be getting a little bit of information, but you'll find that there are a lot of stumbling blocks out there. The moment you start asking detailed questions you suddenly find people aren't quite as happy to share. The ideal is for everybody to share information so that everybody benefits. It's not going to happen at this stage when you're talking about such different levels of experience. You've got growers that have spent years and years and years getting experience and you come along with no background at all, and say "Let us know everything I need to know to grow herbs, so that I can put myself in competition to you". You've got that problem that you're going to face. Can I read you something from this "Growing with Herbs" booklet which I thought was very good. They say, I quote here: "While there could be trade secrets your competitors would prefer not to discuss, many people within the industry will be quite willing to share information if approached in the appropriate manner". That is difficult. What got me here was the "appropriate manner". How many of you have ever written to people asking for information? Put your hands up. Now keep your hand up if you've actually enclosed a stamped addressed envelope. Very few people who write to me with a long letter - Dear Sir/Madam, Please, I want to grow herbs. I've got this sort of land, I'm in this position, I'm looking at this market. Please answer all these questions - and not one stamped addressed envelope! If you are going to expect information please be aware that there is an appropriate manner to approach people and that you're more likely to get at least something out of somebody if it's not going to cost them to give away their information.

At present there are no detailed manuals available that are going to be easy for you to access all your information. Now we do have growers notes around, there are a couple of really good books in the pipeline. There's a series that is currently produced in Germany at the moment which will be written in English covering about 30 crops - one book per crop, giving you all the technical and agronomic information you will ever need about your herbs, but it could take about 10 years for that whole series to come out. So you're going to have to wait.

So what you've got in a network situation is the combined experience of your members and it's a really useful resource. Members have different levels of experience and if you can share that knowledge among yourselves it's a really great starting point on your trip into networking and growing herbs. If you can network further out of your growers groups, then you've got an advantage again. If you find that the information on markets or agronomics isn't available within your level of expertise in that group, then you may have to buy it in and if you have to buy information in then at least you've got the cost saving in terms of sharing the information rather than having to pay for it all yourself.

Networks provide a recognisable face in the industry. If you're got a name and you get a bit of publicity you're probably more recognisable than any one of your individual members, which has advantages and disadvantages. I've had phone calls from a lot of networks that are so thrilled that they've just been approached by a multi-national that want to buy their crop, it's put to me in those terms - "they want to buy our crop". The networks are not growing at all, and they may not grow for a few years, but they've been approached. It's because the faces suddenly become recognisable, they've receive a bit of media publicity and they're attracting approaches from people - people who aren't really prepared to buy, but want to know what's going on, and they will keep them in mind possibly and get in touch with them again in a couple of years down the track just to see whether they're potential suppliers. So in a network situation you often have a better face than you do as an individual grower.

Capital for investment - how many individual growers have the capital to buy the tractors and the storage facilities and everything else? If you combine your resources then you often have that.

External funding opportunities: The emphasis at the moment from a lot of funding bodies (local, state and federal government) is on projects that offer the most potential for sustainable development and for long term employment of people. Quite honestly I am absolutely astounded at the amount of money going into grower's networks, often with no strings attached. I've seen sums from \$5,000 up to \$300,000 go into networks and for every one which has actually lasted long term you've got more than one, two, or three that have failed, and all that money has gone! There's been no results - there's been no reports - the information has not been shared anywhere - it has died! I'm a little bit concerned about the money that's going out and I would like to see some of it go to the next level of development and not just on people reinventing the wheel all the time. If there were strings attached that said you must put out a comprehensive report on what you have done at least it's available should your network disappear.

Networks also provide a supportive environment. They're a great place for people to thrash out ideas. As a grower you might have a few ideas about where you'd like to go and opportunities that may exist that someone else may have thought about, but be a bit wary of it, there's a risk in it. So if you're in a supportive environment provided by a network, then you have a good chance to thrash out those ideas, maybe get them further down the track and you've got people who may be prepared to, in a network situation if it's organised well enough, support you financially in a network development basis on your ideas.

Networks do seem to offer a lot of advantages to the potential grower, and at least half the people who ring me say they would prefer to work in a network situation than do it alone. They have no experience in the industry, not much knowledge, may never have put a crop in the ground before apart from in the home backyard. So therefore the idea of a network gives them the confidence that they need and they feel as though they're going to get off the ground a lot more quickly than if they went it alone.

Unfortunately there are no guarantee in a network situation you're going to succeed and it's going to provide you with the benefits. Networks still have to face the same situation as all the other growers in terms of the problems in terms of the Catch 22 situation where you know there's a market out there, but you really don't want to grow for it unless you can guarantee a return and the market said, well, we don't want to buy until you prove that you can produce on quality, quantity, regularity of supply at our price. You're faced with competition from individual growers. You're faced with competition from other networks. The competition is still there, and it depends on how effective the network is in handling those sort of problems as to whether or not they will end up achieving individual and group goals. And that to a large part depends on how the grower network performs.

What I want to talk about is the types of grower networks that are forming and have formed in Australia. They don't follow the same types that Brian talked about. I'm not talking about 'lead firm' situations which are very successful here where you have a marketer who sources his herbs from different growers. What I'm going to talk about is three types that seem to be predominating at the moment of growers who come together and form these groups.

The first one is the open information network which has been forwarded purely to provide information to growers. It consists of growers and in some cases people who want to grow, but what the network does is provide information only. They charge a fee for membership which usually covers the costs of phone bills and maybe one or two magazines a year. They provide social contact. They provide occasional visits to peoples farms. But a lot of the information is based on members wanting to contact other members in the group. The membership is unrestricted in any sense, but usually it does consist of people in a local region rather than a long way away. There's absolutely no market support at all, the emphasis is not on marketing but just on providing information. Now some members may combine on their own and form a sort of a sub cell which looks at the marketing situation, but the basic network is involved purely in information transfer.

Now that will satisfy people to a certain extent, but the moment you start looking at expanding and wanting to look at different markets you suddenly find that that type of network doesn't provide the information that you want. The network may provide you with suggestions about where you can go for your markets, where you can sell your products, but that's as far as it's concerned.

The next one, the "Open Information and Marketing" network, is the one that's receiving a lot of attention in the media. We've got an example in Tasmania of a group which has got unrestricted membership. A couple of people have come together with the idea that we need a network to really maximise our potential in the market place - we'll form a network. So you put ads in the newspaper, you talk to the local Government Agricultural Department who sets up meetings, and all of a sudden the whole State is covered with a network which is said to represent the whole of the grower situation in that State. A bit of a worry really. The network charges a fee for membership and, in the Tasmanian case, it's \$30, and for that you get your administration charges, usually by volunteer labour, you get a newsletter four times a year, field days provided for you and other opportunities to share information. I'll go into that more later. There is a definite focus on marketing and the group have formed with the aim of identifying and researching out markets, negotiating with end users for sale of the product, and negotiating price. I'm not saying that they are going to negotiate it, but that's what they are set up with the idea of doing. They're also responsible for maintaining quality, but usually it's an informal quality thing. Now this is the most common form of visible network which is forming at the moment. Membership may consist of a dozen people or, as in the case of Tasmania, it consists of 200 people. More on that later.

The third one is the "Closed Information and Marketing" network. Now this is one where the membership is restricted to a small number of people which is a number that the network can handle. Six to 12 seems to be the optimum number for most of the small closed information and marketing networks, although some have gone up to 50 which is a bit of a worry. People are at a similar level of development, or have skills in one areas that offsets lack of expertise in another area. So it's a fairly even sharing of knowledge or expertise or other factors. They are equal shareholders in decision making and in the capital input. Now I've just mentioned in the Open Information Marketing network - the ideal is to have open decision making, every body has a fair share. It usually doesn't work out that way and that there is a committee formed and they make the decision often without consulting the whole membership. In the Closed Information and Marketing network most of the focus seems to be primarily on marketing and the aim is let's really attack this market - we'll join forces, we'll get the benefits, we'll show that we can grow, and the money will come to us.

Each of these networks focuses on support in some way or other. Unfortunately not all are working, actually a large number of them are floundering quite badly, in spite of the enthusiasm and determination of the people in the networks themselves. There's a lot of problems arising and quite a number have fallen by the wayside and you probably won't hear about them again. And it's those sort of problems that I really want to look at because it will affect people like you who may be looking at a networking situation.

Now to understanding the problems facing the network I think you have to understand the keys to success that are showing up in the herb grower's network, and they follow in a similar vein to Brian so we are covering some common ground. I've added a couple of extra ones here that might interest you.

I'm going to relate these to some of the types of networks - the three types of networks that are handling these situations. For any grower's network to succeed you do need that very clear focus and commitment from all the members. Now you have it initially, everybody starts up with this wonderful idea of what you're going to do and how committed you're going to be, but it can be very difficult to maintain that focus and that commitment particularly if you have an organisation which is large and this comes down to the effect of communication that I'll talk about in a moment.

It's fairly easily to maintain motivation and a focus if you're all working together and if one of your members has a day in the dumps and says "I'm going to pack this whole thing in", if you've got people around who know that's happening and can support them and say "No, come on, we're going to get going", you've got that sort of supportive environment and you can focus more on the commitment and really maintain that commitment over long periods of time. When you've got organisations, open information and marketing networks, where you've got such a wide range of expertise, skills, commitments, goals, that commitment and that focus is very very valuable and is difficult to maintain. In the small groups you can maintain it. Each groups needs a short term and long term plan. A lot of the grower's networks are looking a long time ahead, but they're looking at five years as being a long time. It's sort of logical, and I know a lot of you know that that's really a short time, but it's amazing the number of groups who are still thinking "next year, or the year after, we're going to sell, that's our short term goal, and in five years time we'll be major players in the market". You really do need to look long term and if you're not prepared for a long term commitment in a group situation as a network, then perhaps your network isn't necessarily going to survive. You really do have to plan for that long term situation.

Effective communication is essential in any business and particularly essential in a networking situation. It has to be a constant, continual communication of ideas, sharing of information. There's no point in something happening that may impact on your growers and you think, great I'll put that in the newsletter in two months time and by that stage your opportunities have gone. It's a very sure fire way to guarantee that your members are going to become very very dissatisfied. You need effective communication, you need active information sharing, and you need it more than through a newsletter. That can happen on a large scale if you've got people who really work at it, but again the perfect situation is where you've got a handful of people working in together, hopefully in the local area, the moment one of them gets a bit of information that may be useful to everyone you're on the phone, ring up, pass it round, thrash the idea out, and you've got an edge on the market over somebody else who has to share it through 200 different people, if it gets that far. I find the problem of effective communication, or lack of effective communication in networks, is one of the major problems that is leading to their downfall. Unless you have effective communication you get frustration happening - "those up there have all the knowledge, we're not hearing anything, why are their businesses becoming more successful, they're obviously learning something that we're not learning". There is criticism about the way the organisation is run, and then of course you have that wonderful thing about politics.

Politics raises its ugly head everywhere, but there's nothing like a herb network to have politics raised, and you get the personality clashes and it undermines trust, and as Brian said, trust is the most important thing in any network, unless you can maintain that, you're not going to have much of a chance in the long term as far as networks are concerned, and that's a major problem that is cropping up all over the place. So work on your effective communication.

Adequate capitalisation - you do need it! So where are you going to get capitalisation from? If you're in an open information network and you've got 40 people each paying \$30 a year, it doesn't give you much to pay for much more than a newsletter. If you have 200 people paying \$30 a year well that's a better situation, but is that going to be enough to pay for facilities, for storage, for marketing expertise or whatever? You're not going to have enough money, so you've got to get the money from somewhere, hence the people looking for external funding from the government bodies already and that seems to be an area that most people think, well "we're going to start a network, the first thing we have to do is get some money in from the government". I don't approve of that as you can tell.

In a small situation where you have a closed network of people all working at the same level, all with the same commitment which is maintained and the same sense of trust, you're likely to get adequate capitalisation for an idea that will help your business to progress. Depending on the level of finance people have, they can always come up with a bit more for an idea, you can possibly even approach a bank, who wants to approach a bank, but the options are there, but you've all got to be committed to that idea that, yes, we all have to approach a bank for this particular business purpose. You have to treat it like a business, and I do feel that when you're working with a few people you've got a lot of advantages in that.

The next three are very important. For a network to succeed you every do have to have an effective management team with clear lines of authority. Now Brian's already touched on that. You need to have professional marketing expertise and strategies and you need to recognise the need to import expertise if you need it. When you're looking at an open information situation most of the ones in Australia tend to think that because they have a large number of members then they're got the expertise necessary to cover all areas from information retrieval to marketing a produce. That doesn't happen because you've got people who may be farmers, or may be nurses, or have worked in a shop all coming together in a network situation. Some will have a bit more of a dominant personality, they'll get on the committees and they'll start managing the whole network structure and the long and short term planning. And it's a sure fire way of having a disaster because you really do need to have proper professional business advice. So you get it from government advisers, network advisers, specialists in networking, but you've got to look at that level. In the professional marketing expertise, that's really your critical area isn't it? What's the point of growing a crop unless you can market and sell it? So you do need some professional marketing expertise, somebody who knows what business marketing is all about, somebody who will be able to look at the niche markets that are opening up and know how to tackle those, instead of saying "Oh goodie, there's a market opening up, let's go and see whether they want to buy this bag of herbs". You've got to know how to sell your product, what to look for, what the professional market is likely to want. The problem there is of course that a few people may have that expertise in the group but not everybody necessarily reaps the benefits of it, and that's where effective communication and a lot of other things come in.

As far as importing advice and who can look at things that are happening on a global scheme, really you've got to consider that in the long term the aim of the network is to stand alone as a business unit and not to have to rely on imports from government whether it's in knowledge or in finances. Now there's no reasons why you can't keep up the contacts, but you really do have to start being self-sufficient.

A network has got to be able to pro-actively deal with the problems that are likely to arise, rather than just react to them when they do arise, because that will give you a market edge over your competitors that are just sitting there. You've got to have that sort of expertise in your group where people who can look at something and say, "hang on we've got a problem that's going to arise here". Unless you have that sort of expertise it's worthwhile to have someone in to look at your network and say that you may have a problem starting here. Pay for that sort of expertise. Nobody likes to pay for anything, but if the difference is between your business failing or succeeding you may as well get used to the idea of paying because there's a lot of people out there who are paying and are prepared to put that sort of thing into it.

When you are talking about the size of the groups, again it's very difficult to identify problems if you're talking about 200 growers or 200 people who may be growing or may be dabbling or may be interested. You may not identify that problem until it really has become a major problem, whether it's a problem of the commitment and the trust or whether it's a basic problem that - a dozen growers have had a failure in this particular crops - unless you are constantly communicating on a pro-active level, then you're not going to identify problems. A smaller group enables you to identify those problems - if you've got a handful of people all working together, all talking on the phone every few days, your problems can be addressed before they arise. It's worthwhile remembering.

A network has to have the ability to identify the narrow windows of opportunity that are arising. Opportunities really open very quickly and they close very quickly and the first cab off the rack normally is the one that will succeed in some of the niche markets. You've either got to have somebody with skills to actively look for those markets, or somebody with their ear to the ground in your group who can look at things that are happening on a global scheme and think that that may impact on the industry, how about I look further into that and there may be an opportunity there. The flood in China at the moment, people are talking about, if that destroys all the herb crops and you suddenly realise that it could destroy that crop, that crop, that crop, and there's going to be a world shortage next year, well perhaps it's worthwhile going out and getting your group together to plant in the coming season that particular crop. You can do that if you're small, you can't necessarily do that if you've got 200 people then you would have to say, "Well do we really need 200 people growing or do we need a dozen people growing? Which dozen do we choose? Are we going to put everybody else off side?" It's a problem when you've got a big group.

There are other opportunities that somebody may pick up. Everyone's talking about herbs, but what about some of the botanical based pharmaceutical drugs? I'm not talking about the traditional ones, I'm talking about some of the new ones that are newly registered, going through registration process, or at the stage of final clinical trials before registration. There's a lot out there and if you've got your ear to the ground then you may pick up an opportunity in that case. I've been approached in the last two weeks from a company in America which is looking for a source of supply for botanical based drugs. A couple have been registered for a couple of years, but there's a new one, but there's nobody supplying 40 acres of this particular thing to make it worth their while.

So there are opportunities there but you need skills within your network to identify those opportunities or to develop that sort of relationship with somebody else who knows what the opportunities are, who may be interested in sharing with you.

A clearly defined pay-back system. You're obviously going to have different levels of experience in groups and different level of skills and what people can provide. Some people may have a tractor. Why should they provide free use of the tractor to all unless there's some sort of pay back? You can't rely on next week I'll borrow something and return - it'll work out even, it's far better to have that thing defined in the very early stages of your network so that you don't have that problem of critical dissatisfaction, which arises from inequality as you develop as growers. And the thought that some members are getting more - what am I getting in return? So you have establish a pay-back system. And, again, that is a lot easier to establish if you're working on a small scale. How do you work with 200 people and share facilities and knowledge when you've got such different backgrounds in skills, knowledge, expertise, whatever? You have to have that clearly defined, otherwise you're heading for trouble.

A network has to establish very strong external collaborative network relationship. That's with industry bodies, it's with researchers, it's with information providers, it's with other growers and other networks. It's not going to happen easily because you are going to have these barriers put up the moment you try and approach people that have been established a long while, but you do have to work on that, because that is where you're going to get your ideas, your expansion, your knowledge from. The knowledge in a group, unless you work at it really actively is going to be self limiting. So you need the external sources of information. You've got to look further than just the small ones. Any form of network can do that, whether you're a small or large network, but you have to work on it.

Growers networks are going to have to have a focus on education and research to upgrade your knowledge. Now whether your network has a special cell of members whose role is to go and find new knowledge and send it down the links to all the other members or whether you do it in some other way, but you do have to keep in touch with the latest research, you do have to improve your own knowledge of agricultural techniques, you will have to upgrade your knowledge constantly. Now you may have to pay for that focus, but it's worthwhile paying for. You need to be continually upgrading and processing your data and information, that's logical. Unless you can keep up to date with the trends, keep your data in some form. If you can get somebody to use your computer, it gives you an idea of what the cycles are in the industry, the ups and downs - you get a pattern you can identify. You have to be continually updating and processing your data information so that you become aware of those patterns and not just rely on last year's information or the information you've got this year.

A lot of people won't agree with this, but I think you have to have the ability to limit your membership. That overcomes politics and ineffective communication. What are you going to do if you have somebody who ends up as chairman, president, top bod of your organisation and is making a mess of it because of no management expertise, but is a big person who is very strong and says "you're wrong, I'm doing it this way"? You won't let it happen, will you. But it has happened. It's happening. There are several groups where that's happened and politics is really bad when you get to that situation.

So you've got to somehow be able to limit your membership and find strategies for getting rid of people if they're not being effective in your membership. Anybody who has nothing to offer in terms of knowledge or experience is a liability anyway. A liability can also be somebody with knowledge and with experience but who's working to a different agenda than the group goal. So find some sort of a strategy to limit your membership.

You need to regularly reassess the network and its development. Again looking at your five year plan, your long term plan, but don't wait the five years to reassess. Reassess it every year, every few months. Get your group together, talk among yourselves, see whether your individual goals are being met, whether the group goals are being met. You'll find out that way whether there are problems likely to arise. You can do that if you're a small group, you can't do it if you've got 200 people and 20 turn up for a meeting, another 20 may turn up for a field day. You're only getting one side of the picture and if you make decisions based on a small percentage of your membership you can put the rest off-side. You've got to regularly reassess everything in your network and perhaps the best way of doing that is a small group.

The last one, may surprise some of you - skills in using the media. Now why would a network need that? Well, being a media person myself and having a lot of experience in it, I know the power the media has to make or break a business. You probably don't receive Tasmanian newspaper, because after all we are 'OS' (over the strait) and people don't really pay much attention to us, but one of our magazines, one of our newspapers, had wonderful headlines which will really give you encouragement - "Herb Industry set to sky rocket by millions of dollars" This is in Tasmanian alone! It was terrific. Three pages of how, because this one group has now formed, and has a lot of members it's now going to make an enormous difference in the herb industry! Now that's great, but the group hasn't got growers, it's starting up. I'm not having a go at the group, I'm having a go at the media. But because this group was pushed up as being terrific, a new thing, never happened before, the industry is really going to get going now, it's put a lot of people off-side, it's put a lot of established growers off-side which means we're not getting communication between the established growers and the newcomers. It's put a lot of the market people off-side because they think "this is great, we're going to get our sources here" and they're finding, well, we're not producing. There's a lot of problems with media in many areas of life, in herb growing you have to be really really careful with it. If you're a new group and you're really proud of the fact that you've started up and that you're a grower network and you're really going to try and make a good effort at this industry - sure, go and tell your local radio and media people - get a write up just so the community knows what's happening and can give you support even if it's only encouragement, but just be wary of the type of reporter who's really enthusiastic about this great new idea he's just discovered and wants to give you raving reviews, because it can harm your case. If people approach you and find you're not as great as you've been made out to be, then you may not get another chance at the cherry. I have seen it happen where groups have just gone under or have to really struggle hard because the media has given them such a blow up in the first place that the whole thing has been deflating to them. So watch your media, and just a suggestion, if you are giving media interviews as a new media group, whether it's a large one or a small one, insist on seeing the copy before it goes to print. You do have that right, although a lot of people think they can't ask that. I've been misquoted so often in my early years that now every single thing that's ever printed about me has to go through me and I'm a great one for crossing things out, changing things, putting quotes in that I actually say rather than what they think I say. You do have that right to make sure you use the media. It can be very powerful once it's established and it can be really useful for you to get an edge on your competitors, but use it wisely. In a large network that may be difficult unless you've got somebody with expertise in the media and certainly in a large network situation you have to discuss whether you do want a lot of media publicity.

There are actually no blue prints as far as forming a network or what's going to make your network succeed. I've given you some of the ideas that I feel are the keys to success based on what I've seen happening over the last five years. I think I came across my first herb grower's network back in about 1975. The common problems are raising themselves all the time. I personally feel that small groups, as you've already guessed, stand a far better chance of success in the long run than large groups. I'm not saying that large groups haven't got a role, but I think that perhaps they should think about forming cells with an umbrella type situation where you can each work independently choosing the people that you relate to, that you can trust, and develop good communication with, and then as time goes on and you become established and show that you're all working at a similar level, you can start collaborating more and forming larger groups. I would prefer to see that happening rather than a lot of large groups forming. Smaller groups can develop communication, trust, commitment, they can be totally focused, they can be able to assess management needs and address them very quickly. They can grow together at the same rate and they're actually likely to move faster towards the goal they have actually set because they don't have the politics coming into it and they don't have that personality clash and all the rest of it.

I think that's basically what I want to try and get across, just be careful when you're looking at your networking situations when you're considering networks. Don't commit yourself to anything until you can thrash out some of the problems that may arise. Look at some of the issues and others that I may not have mentioned and see what best suits your case. Constantly reassess your network situation. If it's not working for the group, or its not working for you as an individual for whatever reason - change, find another group that will, without adversely deflating the first group obviously.

I personally think that the viable herb industry in Australia is going to consist of broadacre cultivation with mechanisation, of small intensive growers on a small acreage, of growers networks, and end users and it would be nice to see that everybody can work together. In time, as we develop trust, and more confident in each other, then we will be able to do a much more better networking system on a larger scale.

Dr. R. J. Sward
Institute for Horticultural Development
Department of Natural Resources & Environment

1. Government Assistance - Agriculture Victoria

- 1. Specialised Rural Industries Program**
- 2. Other DNRE groups**
- 3. Regional Office (Bairnsdale)**
- 4. Institute for Horticultural Development**

2. Specialised Rural Industries Program

New Plant Products (includes all medicinal and culinary herbs)

• **Farm Diversification Unit at Bendigo**

Funding from the Department's industry program will support work on this project. The unit will be a statewide resource for the gathering and dissemination of information on new crops such as herbs.

Contact - Greg Cahill (054) 304 434

• **RIRDC**

Assistance/collaboration with AV staff can aid the development of R & D projects supported by Federal funds (eg. Value Added Culinary Herbs)

Contact - Robert Sward (03) 9210 9222

Networks - collective bargaining voice to access R & D grants if necessary

3. Other DNRE groups

• **Agribusiness Unit**

• **Regional Marketing network**

Contact - Ralph Cadman (03) 9210 9222

• **Sustainable Agriculture Unit**

FARM\$MART - Modules: Financial Planning
Whole farm/Site Planning
Succession Planning etc.

4. Regional Office (Bairnsdale)

• **Local issues and enquiries**

Contact - Officer for Horticulture

Rob Dimsey (051) 52 0619

5. Institute for Horticultural Development, Knoxfield

Phone - (03) 9210 9222

• **R & D in Postharvest Handling of Herbs**

RIRDC Project

Project Leader - Bruce Tomkins

- Basic storage trials have been done on a range of herbs looking at effects of temperature/humidity/storage bags.
- Work is about to commence looking at the effects on keeping quality of Controlled Atmosphere Storage
- The long term aim is to develop the methods and technology to increase our ability to export fresh Australian grown herbs and so expand our markets and your opportunities

• **Diagnostics Unit**

• **Education and Training Team**

• **Plant Sciences Library**

• **Quality Assurance Programs**