



DEPARTMENT OF AGRICULTURE, SOUTH AUSTRALIA

Agronomy Branch Report

THE POTENTIAL FOR EXPORT OF SEEDS TO THE
MEDITERRANEAN BASIN

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1. INTRODUCTION:

Countries surrounding the Mediterranean Sea have similar, and in some instances, almost identical climates, soils and topography to counterpart areas of southern Australia. For these reasons, many of the best Australian herbage plant cultivars have been developed from seeds originally in the Mediterranean region.

The development of pastures in the Mediterranean has lagged behind Australia for political, sociological and economic reasons. Because of recent changes in these, there now exists a large potential for production in Australia of descendants of Mediterranean seeds for export back to the Mediterranean - the area from which they originated, in some instances more than 100 years ago.

2. LAND USE SYSTEMS IN MEDITERRANEAN COUNTRIES:

To appreciate this potential, some understanding of Mediterranean land utilisation is helpful.

Agricultural land use systems are based on the wheat crop, in a fallow-crop rotation. Fallows are not often the clean cultivated Australian type, but more usually a collection of volunteer weeds, growing between cropping years. There is little organised livestock production by the crop grower. The common stock are fat tailed sheep, often solely for milk production and less often for meat and milk and rarely for wool production. Arab farmers do not usually own sheep. Instead sheep are owned by nomads and grazed in the hills and mountains during the summer, then on cereal stubbles in autumn, fallows in the spring and in more arid inland areas during the winter. This form of grazing I have termed the "natural" system.

In some countries such as Sardinia, and southern Italy, a traditional system is followed, which involves sowing mixtures of oats and vetches for grazing and hay in between cereal grain crops.

Both the fallow-wheat and oats-vetch-wheat reduce soil fertility and structure and therefore do not result in maximising production.

Two main forces have modified these "natural" and "traditional" land use systems, the European colonisation and the recent domestic and international aid programmes.

The colonial governments and European settlers developed irrigation facilities and introduced mechanisation in the Middle East and North Africa. Many unsuitable techniques introduced by the French have remained and are now hindering progress. Probably the most harmful introduced technique is seedbed preparation. The practice of deep ploughing is widespread. Often crawler tractors pull single furrow disc ploughs and autumn work (dry) to a depth of a metre. This is then worked back by countless disc harrowings to a loose fluffy seedbed for planting. A simple shallow cultivation as used in Australia should be quite adequate.

Agricultural aid programmes have aimed mainly at yield improvement of grain through varietal selection for disease resistance and yielding ability with emphasis on intensification of cropping and application of nitrogen and other fertilisers. Most previous work has been under irrigation. Only now is the study of improved methods for rainfed agriculture receiving emphasis.

The Australian system under rainfed conditions of growing an annual legume in rotation with the cereal crop and carrying livestock as an integral part of this rotation has not received attention until very recently. This system has in Australia, under similar environmental conditions, increased productivity and improved soil structure and fertility. It should be remembered that the use of a fallow-wheat often stockless system in Australia resulted in breakdown of soil structure and severe reduction in soil organisation in about fifty years. Only the introduction of legumes and livestock (together with correct fertiliser use) reversed this soil destruction.

Appreciation of the value of the Australian crop-pasture system to the countries with a Mediterranean climate has previously been extremely limited outside Australia. Today, however, the value is appreciated by governments in many countries and several major international donors of aid. Experimental sowings of legume seed and large scale farmer demonstrations are proceeding. These are proving spectacularly successful - just as they did in Australia. A revolution has commenced. Its progress will be retarded in some countries by social problems, but there are indications that it will spread over the entire region in time.

3. SEED REQUIREMENTS FOR IMPLEMENTING LEGUME-CEREAL ROTATIONS IN THE MEDITERRANEAN REGIONS:

Southern Australia has an estimated 48 million hectares sown with improved legumes and grasses. This has been established during the last fifty years generally using low seeding rates of between 2 and 5 kilograms per hectare. The lower seeding rates were often adequate because virgin scrub was cleared and sown down before competition from weedy and volunteer annuals developed. The pasture often took many years to reach full production.

An area at least as large needs sowing in developing Mediterranean countries. Because of pressure from increasing populations coupled with rising standards of living, there is widespread desire to improve agricultural output rapidly.

Because of this desire for rapid development, seeding rates will be much higher than normally used in Australia, probably between 10 and 25 kilograms per hectare. If not hindered by lack of seed it is likely that the entire area will be sown down in the next decade.

More pasture seed will be needed in the Mediterranean region in the next decade than Australia has used during the last fifty years. Such is the potential size of the seed market.

4. COMPETING SUPPLIERS OF SEED:

While Australia has previously been successful in selling moderately large quantities of seed to Spain and Portugal and smaller quantities to Sardinia, Iran, Lebanon, Turkey, Morocco, Algeria, Tunisia, Libya and Cyprus, it would be naive of us to expect to be sole suppliers to this envisaged greatly expanded potential market.

Firstly, all the above countries are, or are likely to pursue policies of home production of seeds. But these countries must face technical production difficulties, especially due to the countries' current comparative lack of organising ability and the immense pressure from rising populations needing food grains, therefore achieving self-sufficiency due to the immense quantity needed, will prove a virtual impossibility.

Secondly, other countries will be after a share of the market. New Zealand, Chile, Uruguay and the Argentine could be serious competitors. Other South American countries could become exporters. South Africa has a suitable environment but at present faces much the same population pressure problems as the Mediterranean countries.

Australia, one must conclude, because of our vast under-utilised resources and technical knowledge, is in the best position of any country to supply a major portion of this seed.

5. SEED PRICES:

Sales of seeds at very low prices to some countries during the last few years have given rise to the belief that these countries can only, or will only, buy at prices current during the 1971-72 Australian rural recession.

Mediterranean countries (like others) like to buy as cheaply as possible and having bought seed for a very low price are loath to subsequently pay a higher price.

However, there is no valid reason why an Australian selling price of 14 cents per pound (30.8 cents per kilogram) is acceptable and 20 to 25 cents per pound (44 and 45 cents per kilogram) is unacceptable.

It should be realised that firstly our selling price often bears little relation to the retail price to farmers in the Mediterranean. Instances can be cited of seed sold by Australian firms for 15 cents per pound (FOB) and retailing in the Middle East to farmers for close to \$A1 per pound (\$A2.20 per kilogram).

Secondly, very many developing Mediterranean countries because of oil exports, are relatively wealthy countries. Libya, for instance, has a gross national product, per head of population, similar to Australia. With generous aid programmes even the less affluent countries have ready access to credit for agricultural development.

There has been a tendency in Australia for several Australian firms to compete with each other on price to obtain export orders. More often than not each was offering the same seed, which they hoped to purchase from growers following receipt of orders. The lowest tender naturally received the business. This has pulled prices down lower than has been warranted and resulted in growers receiving returns often at or below their costs.

A 5 cents per pound (11 cents per kilogram) extra return to growers to enable production to remain attractive to them, should not be any deterrent to export sales.

6. PROBLEMS:

The majority of pasture seeds in Australia are still produced as a by-product of grazed pastures despite continued efforts, particularly in South Australia, aimed at developing more sophistication and efficient production systems.

The major drawbacks of our current production system is fluctuating seasonal production and unplanned marketing with violent price fluctuations according to fluctuating supply.

A major problem in developing seed exports is lack of continuity of supply.

There has not been any real attempt to produce seeds for export markets. Rather production has tended to lag behind

domestic demand and in years of over-supply, export markets have been sought.

Comments from Mediterranean countries indicate that our present inability to maintain continuity of supply is forcing countries to aim at rapid development of their own seed producing facilities.

7. SEED QUALITY:

The various Australian states have developed a set of rather similar arbitrary physical and genetic seed quality standards for domestic use. These are not necessarily the standards appropriate for or required by developing countries.

Many declared Australian weeds originated in Mediterranean countries where they are in equilibrium with the environment. A minor increase due to seed contamination is of no consequence. On the other hand, many countries do not have plants such as cape-weed (Cryptostemma calendula) which (while not encouraged) are, in Australia, not usually considered to be serious seed impurities as these plants are now in equilibrium with the Australian environment.

With annual medics the permissible maximum genetic impurity allowed in Australian certification schemes is 5 per cent. In some developing Mediterranean countries 10 per cent impurities is considered to be satisfactory.

It is important that exporters and seed producers become familiar with the requirements of these countries to enable seed to be produced or prepared to meet requirements at the lowest possible cost.

7.1 Types of Seed

7.1.1 Pasture

The biggest demand is for annual legume seeds. Demand in North Africa will be predominantly for medic seeds because they suit the soils which are almost entirely alkaline. Elsewhere in the Mediterranean region both medics and subterranean clovers will be useful as acid soils occur in most countries to a limited degree. The popular Australian varieties such as Jemalong barrel medic, Harbinger strand medic, Clare, Woogenellup subterranean clover and others, are performing well on appropriate soils and climates in the region.

Ultimately there will be a huge market for grass seeds, especially Phalaris cultivars, particularly on the northern side of the Mediterranean Sea. In countries such as Iran, there is a

developing (but already large) demand for Phalaris tuberosa for use in water run off and erosion control in watershed management programmes.

I have doubts about the performance of many Australian pasture cultivars in elevated areas, such as Iran and Turkey. Winters may be too cold for their survival. In these areas development of local cultivars and breeding or introduction of new cultivars will play an important role. These new cultivars will need speedy multiplication to enable widespread usage at an early date. Australia could undertake multiplication of these. Ultimately, this development of new varieties will also proceed in countries which initially will find Australian cultivars of value.

7.1.2 Cereal

There is a big immediate potential for the sale of seed of Australian varieties of cereals in the region. While breeding, seed production and certification programmes for cereal seeds are proceeding in many countries, some are currently importing from North America and elsewhere big tonnages of cereal seeds. Our varieties are likely to be at least as well adapted as the ones currently being imported (probably more so). Seed grain prices are attractive - approximately double Australian milling or malting prices. Production of cereal seeds in Australia could be expanded rapidly without any major cost providing an appropriate certification seed scheme is implemented. This market should be exploited immediately.

3. THE NEED FOR ACTION:

Unless positive policies are followed, South Australia will not develop substantial exports to the Mediterranean. Instead spasmodic orders may eventuate and will probably diminish in around five years.

To enable development, the following areas must receive attention:-

8.1 Production of Herbage Seed

We have the potential to produce herbage seeds, particularly annual medic seeds for which we are already the main Australian region of production. While some increases should come from specialised production in the South East and north of Adelaide, large scale sideline production is possible on Eyre Peninsula.

Hand in hand with increases in production must go development of provision of adequate carry-over stocks to avoid embarrass-

ments caused by shortages induced by drought or sudden demand increases. This may require provision of additional finance to ensure growers receive cash returns as soon as possible.

8.2 Publicity of the Australian System

It is essential that we sell the Australian cereal farming system which involves the use of annual legumes and other pasture plants, alternating instead of fallow between cereal crops.

It must be appreciated that many well qualified agronomists and agricultural workers who are active in agricultural development programmes in the Mediterranean countries, do not fully understand the Australian system and ignore it or are even actively antagonistic to it. Fortunately, within the last two years, two expatriate Australian agronomists familiar with this system are actively promoting it in the Mediterranean region as employees of aid programmes. There is room for very much more to be done. Australia could learn from America and fund and staff selected aid programmes aimed at utilising Australian techniques, seed and equipment. This could benefit other industries as well as the seed industry, such as agricultural machinery and farm requirement suppliers.

8.3 Actively Promote Sales

The only really successful way of developing and maintaining commercial contact with these countries is on a personal basis. This involves exploratory and follow up visits. Very little can be achieved by correspondence from desk-bound Australian exporters. Business is best negotiated on a personal basis. In some countries local agents who have the ear of government and other financial people are essential and their assistance should be sought.

Fortunately the South Australian Seedgrowers Co-operative and other firms have done considerable sales promotion already, but continuing efforts are necessary.

Technical sales service, such as I undertook last year, has proved to be invaluable and must be continued.

A positive attitude of servicing a market, rather than supplying small quantities of seed on an ad hoc basis, is needed.

We should negotiate sales in Australian rather than American dollars. Due to shipping delays and late arrival of seeds (often too late for sowing), importers must be made aware of the advantages of early buying - at our harvest - this can mean lower prices, particularly with oat seed.

We should explore the possibilities of long term, say five year, contracts. This would promote the confidence of the Australian producer, the Mediterranean importer and farmer and help promote price stability.