

THE DRIED FRUITS INDUSTRY IN AUSTRALIA

D. M. McBean

Firstly, I want to thank the DFIRAC for the opportunity of attending this meeting and to this I want to couple my appreciation to the USDA WRL for the chance to cooperate on their programme of dried fruits research.

Somewhere along the way the title of my short talk has been changed. Initially it was "Whither the Dried Fruits Industry in Australia" but maybe this suggested that it was in fact withering away prior to senescence and death. But seriously there is a slow but sure general decline in the total tonnage of dried fruits produced in Australia just as there is in many other parts of the world. This is independent of the seasonal fluctuations of which the past season in Australia is a good example. There, it has been a drought year which has seen production severely depleted. For example in one district which produces all of our non-irrigated prunes average production of 2000 to 2500 tons was cut to less than 100 tons. Tonnage of other fruits are also generally down but to a less degree.

Many of you will already know much about the geography of Australia and where our dried fruits are produced but for those who don't, it is worth saying that Australia is about the size of the U. S. but at present agricultural production is limited by water availability. Most of our dried fruit is produced in the area of the Murray-Murrumbidgee river system in the southern part of Australia.

Average production figures are as follows:

(a) Vine Fruits	100,000 tons
	75,000 tons sultanas
	15,000 tons raisins (Muscats)
	10,000 tons currants

Exports vary from 70-80% of total, most going to parts of the British Commonwealth trade area.

(b) Prunes	5,000 tons
Apricots	3,000 tons
Peaches	1,000 tons
Apples	200 tons
Pears	100 tons

No commercial production of figs or dates.

About 50% of Category (b) are exported. Except for vine fruits and sometimes apricots the latter figures are quite meagre compared with U. S. production, which of course means California production.

Production of dried vine fruits is relatively uniform except for seasonal fluctuations although there is a tendency for Thompsons seedless to be diverted to wine production. The ADFA mounts a strong advertising and promotion campaign. These apply, however, to existing products. In this rapidly changing society where the emphasis is on quickness of preparation and convenience most dried fruits come up against sales resistance. You can't convert to new products quickly because in most cases this would involve a complete and costly revolution within the industry. In Australia, at least, such drastic changes are almost impossible because of the many small producers who have from 10 - 40 acres of fruit. Their subsequent processing is handled through

cooperatives and some private companies. A complete change would need to occur with growers sending fruit to a central processing plant.

With apricots, the amount dried depends largely on what canneries will buy and since this seems to be falling, due to within-can breakdown, the grower is being forced to dry more of his fruit. The grower receives more per fresh ton for apricots if he dries it but he is drying it just before, during and just after the Christmas and festive season. Labour is difficult to acquire then, Some research is going into kamaradeen - apricot pulp blended with SO_2 , sorbitol and dried.

With prunes the introduction of high moisture fruit has increased sales in Australia and because sorbate and epoxides have not got a health clearance from our Food Additive authorities, we have had to devise processing methods which ensure sterile packs without such chemical preservatives.

Pears, like apples, mainly go to fresh market with a smaller amount to canneries.

Present Research

Not too much work is being done on new products because of the make-up of the industry on its small scale basis. The alternative is to improve quality. With vine fruits, research is proceeding in the development of new strains of Thompson seedless, methods for determining fruitfulness at an early stage of maturity, mechanical harvesting, the prevention of sand and grit in the dried product and a study of means of increasing drying rates. This latter part deals with the chemical and physical nature of the "bloom" on fresh grapes and its water transmission properties.

Rack dehydraters have also been designed for rescue operations in rainy periods which occur about 1 year in 5 in Australia.

The work in which I have been mainly involved in Australia deals with prunes and cut fruits.

(1) We have devised satisfactory procedures for packing high-moisture prunes - up to 40% H_2O in plastic pouches without the use of chemical aids.

(2) A study of the waxy bloom on fresh prunes has shown much concerning the chemical and physical nature of this cuticular layer and its water transmission properties.

On cut fruits we have carried out a long and meticulous investigation on factors which affect the uptake of SO_2 by fruit tissue, its retention during drying and the proportions of free and combined SO_2 present at various stages during processing. This investigation has been greatly assisted by the use of a small Japanese instrument which measures SO_2 content in the gaseous atmosphere in about 10 sec. It is based on the change in refractive index of the air-gas mixture. From this we have recommended to the industry procedures by which growers should be able to obtain dried samples with 2000 to 3000 ppm instead of the wider range of 100-6000 ppm which has occurred in the past.