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FERTILISING QUOTA WHEAT CROPS
By N. J. HALSE, Chief, Plant Research Division

BEFORE wheat quotas were introduced, a farmer had to make two major decisions on fertilisers for wheat crops each year—what area to crop; and how much fertiliser to use.

Whereas farmers were aiming at maximum economical wheat yields over their cropped area, they are now concerned only with growing their wheat quota.

If the quota is 16,000 bushels, for example, the cropping decision is:

How can 16,000 bushels of wheat be grown most profitably on the farm?

The 16,000 bushels can be grown with heavy fertiliser application over a smaller cropped area at high yield or over a bigger area at relatively low yield. Which of these will be more profitable?

The cost of extra fertiliser will frequently be more than the costs saved by working the smaller area. However, by using more fertiliser over a smaller area a certain amount of land is saved. The profitability of the heavy fertiliser application will then depend on the use made of the land saved.

For example, if the expected yields are 16 bushels per acre with no nitrogen fertiliser and 20 bushels per acre with nitrogen, there are two ways of growing the crop:

(1) On 1,000 acres at 16 bu. per ac. = 16,000 bu.

(2) On 800 acres at 20 bu. per ac. = 16,000 bu.

The following article, "Nitrogen Fertilisers and Cereals", provides a guide to calculate the areas required at different nitrogen rates.

In (2) above, 200 acres of land are saved and could be used in several ways:

A. The 200 acres is not used at all. In this case, because the cost of preparing, seeding and harvesting the 200 acres is generally less than the cost of the nitrogen fertiliser for the 800 acres, it would be better not to use nitrogen fertiliser, and to plant the larger area.

B. Existing stock is run on the 200 acres—but they could have been run on the rest of the farm without the 200 acres. In this case the extra production from the stock will probably be small and it would normally be better not to use the nitrogen fertiliser, and grow a lower yielding crop on 1,000 acres.

C. The 200 acres is used for a real alternative—either by alternative crops or by additional stock carried on the farm. In this case the relative profitability of the alternatives must be calculated. An accompanying article, "Calculation of Nitrogen Rates for Quota Wheat", compares some alternatives and gives examples of the calculation method.

It must be remembered that these calculations only apply if all the farm is being used efficiently. If nitrogen fertiliser is used to reduce the wheat area by 200 acres and barley is grown instead on the 200 acres but a similar area elsewhere is left idle, then it has not been profitable to use the nitrogen.

Some general guidelines can be given about fertilisers for quota wheat crops.

**Phosphate**

If the soil requires phosphate it will generally pay to use almost enough for maximum yield. The cost of superphosphate to obtain the extra yield is low—and will usually be cheaper than planting a bigger crop area.

However, this only applies where there is a response to phosphate. Old heavy land in the wheatbelt which has had more than a ton of superphosphate in the past and regular recent dressings will give near maximum crop and pasture yields for several years without phosphate. Many farmers use more phosphate than is needed on such land.
Nitrogen

Although budgeting is needed for each cropping situation, depending on the rate of nitrogen required, the yield response and the alternatives available, some generalisations can be made.

1. In most wheatbelt situations it will normally be cheaper to grow wheat on a larger area without nitrogen fertiliser if there is no alternative use of the area saved.

2. In the outer wheatbelt there is unlikely to be a sufficiently profitable alternative land use to be worth using nitrogen on a smaller crop area.

3. Farmers who are short of working capital may find it difficult to engage in an alternative enterprise on the saved area and probably should crop without nitrogen.

4. Nitrogen can still be profitably used on crops other than quota wheat. If a limited amount of working capital is available to buy nitrogen it would usually be better to use the nitrogen on rape or malting barley at recommended rates, rather than on wheat.

Controller of Abbatoirs retires

One of Western Australia’s best known veterinary surgeons, Mr. J. Shilkin, retired on April 16 from the Department of Agriculture position of Controller of Abattoirs.

Mr. Shilkin qualified in veterinary science at the University of Sydney and first joined the W.A. Department of Agriculture in 1934. From 1938 to 1946 he worked in Queensland, first on export meat supervision with the Commonwealth Department of Commerce and Agriculture, and later as an adviser to the Queensland Milk Board.

In 1946 he returned to private practice in Western Australia, rejoining the Department of Agriculture as a Senior Veterinary Surgeon in 1951. He was appointed Assistant Chief Veterinary Surgeon in 1958, and was transferred to the position of Controller of Abattoirs in 1968.

Mr. Shilkin is an active member of the Australian Veterinary Association and is widely respected for his services to the veterinary profession. Subsidised veterinary practitioner services to increase the number of veterinarians in country areas, and the establishment of a veterinary school in Western Australia are two projects which have received his strong support.