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A. S. Wild

J. T. Reeves

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Fig. 1.—A well-grown sample of Atlas barley which has been slightly over-threshed, damaging the awn end of the grain.

OATS AND BARLEY FOR THE EXPORT MARKET

By A. S. WILD, B.Sc. Agric., Acting Superintendent of Wheat Farming
and J. T. REEVES, B.Sc. Agric., Plant Geneticist

TODAY, with the accumulation of large stocks of wheat due to marketing difficulties, more attention is being paid to the growing of the two coarse grains, oats and barley. These are more readily saleable on the world's markets, at a price which gives a reasonable return to the grower.

Recently, there was published in this journal an article "Oats and Barley in Western Australia" (1). Included in this article were figures setting out the acreages sown to individual varieties, both oats and barley for the five seasons 1948/49 to 1952/53. The three leading oat varieties, in order of importance were Ballidu, Wongan and Dale, while the most popular barley varieties were Atlas (6-row), Prior (2-row) and Cape (6-row). It is anticipated that statistics will show that these are still the most widely grown varieties in this State.

In the following table the total grain yields for oats and barley are given for the three seasons 1951/52, 1952/53 and 1953/54. While production for 1954/55 is not yet fully known, the estimate for oats is 10,000,000 bushels.

GRAIN PRODUCTION IN BUSHELS.

Season.	Oats.	Barley (2-row).	Barley (6-row).	Total Barley.
1951-52	7,689,222	230,472	464,613	695,085
1952-53	10,439,880	380,808	1,361,568	1,742,376
1953-54	9,590,643	405,759	2,327,418	2,733,177



Fig. 2.—Ballidu oats. This is an excellent variety suitable for grazing, hay and grain. It is the most widely-grown variety in Western Australia.

OATS

Approximately 80 per cent of the total grain production of oats is consumed within the State; normally most of it being used for stock feed. The proportion used locally varies slightly from year to year depending both on seasonal conditions in Western Australia and also on the market price and subsequent realisation to the farmer.

The leading oat varieties Ballidu, Wongan and Dale are sown to 85 per cent. of the total oat acreage. They are general purpose varieties, being suitable for both grazing and subsequent recovery for grain and no doubt the majority of oats exported from this State consists of these three varieties. Their grain quality is normally

quite satisfactory and they are therefore eminently suitable for the export trade. As less important oats, including Algerian and Fulghum, are principally grazing varieties, they would be of only minor importance in the grain trade. As it happens their grain is not as plump and attractive as that from the three major varieties.

For the export trade it is recommended that Dale (midseason maturing), Ballidu (early maturing) and Wongan (very early maturing) be grown. The grain quality of the new variety, Avon, has not yet been finally determined, although its awnless, light-coloured grain should be in its favour.

The principal overseas market for oats is the United Kingdom, where the grain is either milled for the manufacture of oat-

meal or is used for the feeding of stock. The Quaker Oat Company is usually a major overseas buyer. Small shipments are also sold to other European countries.

BARLEY

The local malting industry uses almost exclusively 2-row varieties, principally Prior and Maltworthy. Therefore, the total production of 6-row varieties is available for use either for stock feeding locally or for export to various overseas markets. The proportion sold overseas is at present from 50 per cent. to 60 per cent. of the total grain marketed.

Of the 6-row varieties, the most important is Atlas, which is grown on 80 per cent. of the area sown to this type of barley. Grain from this variety would therefore predominate in shipments from Western Australia.

The major overseas market is the United Kingdom where the grain is used either for malting or as a stock food. For malting, however, the sample must be of excellent quality; for this purpose the crop requires suitable conditions for growth, while considerable care is required in its harvesting.

Suitable conditions for the growing of malting barley, either 2 or 6-row, are the direct opposite to those necessary for the production of high quality wheat. In general, light land in the better rainfall areas, with its slower ripening conditions is required for good quality barley grain.

The product must be a plump grain, bright in colour, starchy in cross-section (hard, steely grain is unsuitable for malting) and free from admixture of other seeds or other foreign matter. In addition the grain must be well ripened and the skin undamaged, with about one-eighth of an inch of awn still left on the grain.

If the sample does not measure up to these requirements it is sold for stock food, usually at a discount.

In recent years trial shipments of 6-row barley have been sent to Asian markets, principally to Japan, where it was pearled and used as a substitute for rice. Unfortunately in the variety Atlas the aleurone layer, which lies underneath the skin, is blue in colour. On pearling, the removal of the skin leaves a bluish grain, which gave rise to considerable prejudice even though, on cooking, most of this colour disappears.

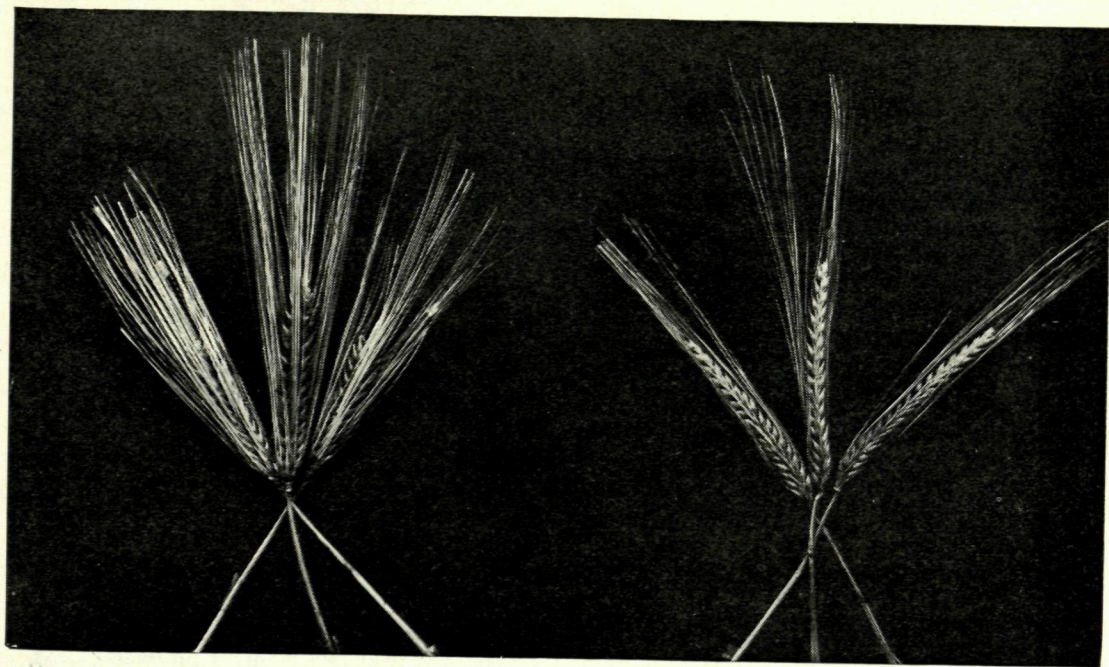


Fig. 3.—Two popular barley varieties. That on the left is Atlas, a six-row variety. On the right is the two-row Prior, the most popular malting barley in Australia.

It is evident, therefore, that to continue to sell barley for use as a substitute for rice, it is necessary to replace Atlas with a variety possessing a white aleurone. One variety which may prove to be suitable is Beecher; this is now under test on wheat-belt Research Stations (2). It was developed from a cross with Atlas and appears to retain the good yielding and malting qualities of Atlas and therefore it should also be suitable for the British malting trade.

Other less popular 6-row varieties are Cape and Club Mariout; of these Cape is capable of producing grain of malting quality, but it is usually outyielded by Atlas. Club Mariout, however produces grain of poor malting qualities. It is therefore most desirable that grain from this variety be excluded from shipments of barley to the United Kingdom so that it will not lower the malting value of such

cargoes. For this purpose Club Mariout should be discarded in favour of a better variety, such as Atlas. The variety Californian, with qualities similar in many respects to those of Atlas, is also grown on a small acreage.

For the overseas market the most suitable 6-row variety is Atlas. As already noted its blue aleurone makes it unwanted in some markets and it is, therefore, desirable to replace it as soon as possible with a variety without this particular feature.

- (1) Reeves, J. T.; "Oats and Barley Varieties in Western Australia" Jour. Agric., W.A. 111, No. 4, 3rd Series, p. 453-461.
- (2) Shier, F. L. and Reeves, J.: "Cereal Variety Trials" Jour. Agric., W.A. IV. No. 2, 3rd Series, p. 212.

LUCERNE IN THE NORTH-WEST

An interesting feature of a field day held at the Gascoyne Research Station, Carnarvon, this year was the interest shown in lucerne growing under irrigation.

Speaking at the field day and later at a show-of colour slides at the Gascoyne Hotel, the Agrostologist attached to the North-West Branch of the Department of Agriculture (Dr. B. Rumich) said that lucerne growing was destined to play an important role in irrigated agriculture in the North-West.

Irrigated lucerne patches gave large quantities of excellent fodder which, in the form of baled hay, was readily saleable in the district.

Whereas Carnarvon's principal crop, the banana, was highly susceptible to saline conditions, requiring water with less than 40 grains of salt to the gallon, lucerne could be grown successfully even with water containing almost 200 grains to the gallon.

There was usually a rise in the salt content of the irrigation water during dry spells and on many properties where banana-growing was

a somewhat risky proposition lucerne could be a profitable alternative crop.

Apart from the cash value of the lucerne, it was valuable as a soil improver and could be featured as a rotational crop which would increase the humus content of the soil and improve its texture and water-holding properties.

On the property of Messrs. H. Smeed and G. Harris near Carnarvon dairy cattle were being strip-grazed on a 3-acre lucerne paddock by means of an electric fence. The lucerne was two years old and was being irrigated with water carrying 170 grains of salt to the gallon. On this property the area under lucerne was being extended.

Dr. Rumich showed a number of coloured slides of station properties where lucerne was being grown successfully.

At the Gascoyne Research Station irrigation trials were being conducted to determine the best types of sprinklers to use and the most economical quantities of water to apply.

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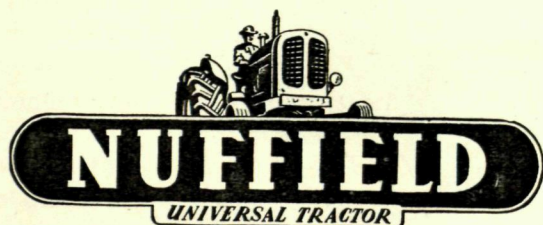
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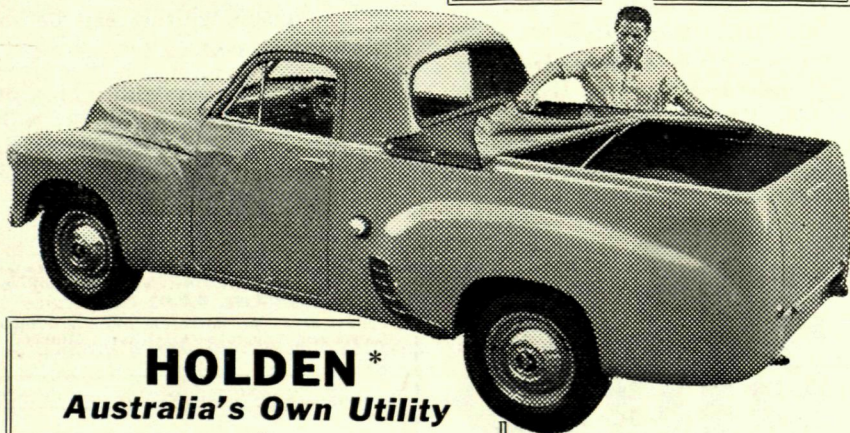
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