skim ploughed or disced, cultivated, harrowed, and the seed drilled (or occasionally broadcast).

Varieties

In contrast to the malting barleys, which have only two rows of grain along the head, feed barleys are all 6-rowed. Generally feed barleys are larger, faster-growing, more bulky plants than the malting varieties and have broader leaves. The two common varieties are Black Skinless and Cape, the latter being more popular. It overwinters successfully in most seasons and is therefore suitable for autumn sowing and periodic grazing until spring. In the young leafy stage plants are semi-erect, with a moderate number of tillers and floppy, broad, comparatively short leaves. In the early stages of growth Black Skinless is similar to Cape except that it is recognised as being somewhat faster growing. In seasonal production and behaviour under grazing Black Skinless is similar to Cape.

A number of overseas varieties has been introduced to try to discover a variety that will recover better after grazing than the present varieties, or one which can be grazed later into the spring. The best of the introductions appears to be Wong, a hybrid barley produced in China and now being grown as a winter barley in the north-east states of the U.S.A. Its early growth is dense and prostrate, with many tillers. The leaves are long, but narrower and lighter in colour than Cape. Wong maintains this dense leafy form throughout the winter and early spring and recovers well after repeated grazing. Yield and recovery trials are still being carried out with it, but present indications are that it will have a place as a supplement to the existing varieties.

[J. P. Malcolm photo

Typical growth habit of Wong barley.

Wheat

Of the total of 144,000 acres of wheat grown in 1946-47, 90 per cent. was in the South Island—70 per cent. in the Canterbury district. Of the Dominion acreage 1771 acres or 1.2 per cent. was grown for greenfeed only. Some of the latter acreage may have been sown for a grain crop in the autumn, but because of feed shortage, was grazed to such an extent in winter and early spring that the chances of obtaining a satisfactory grain crop became remote and the crop continued to be treated as greenfeed.

Since the introduction of heading varieties of wheat, which are less liable to lodge, the feeding off of wheat grown for a grain crop has ceased to be standard practice and the procedure is now confined mainly to very heavy land—such as that of the Willowbridge and Coldstream districts, where varieties such as Dreadnought and Hunters are grown—or to occasions when seasonal feed shortages make it necessary to graze the wheat. It is probable that 10 per cent. or less of the wheat crops are intended to supply grazing, but the proportion eventually grazed, because feed is required or exceptionally heavy growth has been made, may be as high as 20 per cent.

Hunters is perhaps the best wheat for feeding off, as it is usually autumn sown and is a strongly rooted, robust plant. Tuscan and Cross 7 are also suitable, but do not appear to stand such heavy grazing as Hunters. No attempt should be made to utilise spring-sown varieties for greenfeed.

The feeding off of wheat is quite a sound practice provided it is done by large mobs of sheep as quickly and as evenly as possible when the soil is in good, dry condition, and provided that grazing is not too severe or continued too late in the spring.

[J. P. Malcolm photo.

Plants of Black Skinless, a popular barley for greenfeed.

Ryecorn

The use of ryecorn appears to be increasing throughout the areas in which cereals are grown for greenfeed, more especially in the Southland area where, though the latest available figures do not confirm the statement, ryecorn is said to be the most important cereal grown for greenfeed. It is particularly valuable on medium soils of low organic content, where its growth is better than on the richer soils. The reasons for the increasing popularity of this crop are its quick growth, rapid recovery after grazing, ability to give winter grazing if necessary, early-spring growth, and, under Southland conditions, its tremendous spring growth. The early-spring growth is particularly important because where pasture comes away late in spring, ryecorn provides that early green bite necessary for stock and at the same time makes it possible to spell pastures.

Until recently Emerald was the only variety available, but there are now new winter varieties which are vastly superior; they are broader in the leaf, stool out better, stand frost better, give a very much greater bulk of feed, and recover from grazing much more rapidly than Emerald.

The time for sowing ryecorn varies according to the period at which the feed is required, and any period other than late autumn and winter appears to be satisfactory.

The crop may be sown at the rate of 2½ to 3 bushels per acre for greenfeed and grain crop on a fallow, usually after turnips, for use as a cleaning crop; annual weeds are eaten out