



Fig. 40.—In stockyards, and very often pastures on rich country, *poa annua* is frequently the dominant grass. Here, *poa annua* is dominant, with a few odd plants of ryegrass near the rails.

[S. H. Saxby, photo.]

a true twitch—that is, it spreads by means of rhizomes or underground creeping stems. Under fertile conditions it produces a fair quantity of second-rate feed. Being of a twitchy nature, it will thrive only in loose textured soils.

It has been tried out on hill country to a considerable extent, but has never been found to produce as satisfactory or permanent a sward as browntop, as consolidation prevents its spreading. A certain amount of redtop was at one time imported for the sowing down of lawns and playing areas, but because of its coarse nature and poor turf-forming qualities it has given place to the much better grasses, browntop and Chewings fescue.

As a pasture plant redtop is useless. On good country where it will thrive it is an undesirable twitch of lower production and poorer quality than ryegrass. On poor country it will persist as a stunted, spindly plant which produces very little feed. The sowing of redtop is not justified under any conditions.

Redtop is distinguished from browntop by its much longer ligule, its

twitchy habit, and coarser leaf. It differs from creeping bent in that it has underground creeping stems, whereas those of creeping bent are overground creeping. It is also a

Because of the shortage of paper supplies caused by the war it has been necessary to use a different type of paper in this issue of the "Journal."

It is hoped that further supplies of the paper usually used will be on hand for the January issue.

much coarser type of plant. The sheath and leaf shoot are round in section. Ears are absent.

Heavy Winter Stocking

Annual Poa (Poa Annua).—This is an annual volunteer grass which is frequently found throughout New Zealand in open pastures and waste places. Although it is relished by stock, its short life and its low production cause it to be regarded as of little value. In

most parts it may be seen flowering and reseeding during practically any month in the year.

It is frequently prominent in pastures that have been heavily stocked and poached in the winter. This opening up permits the growth and rapid spread of this grass.

It also comes into pastures on heavy soils which are sown with short-lived strains of pasture plants. As it will not stand competition, *poa annua* in these pastures is usually replaced by the more permanent grasses and weeds which are aggressive but slow-establishing.

Generally speaking, the presence of *poa annua* indicates heavy winter stocking or a transitional stage in a pasture life, this stage being between the time that the temporary sown elements die out and the time that the final permanent elements are thoroughly established.

For identification purposes, *poa annua* has a useful and characteristic feature in an obvious waving or crinkling half-way along the leaf, which is dull on both surfaces. It is very shallow rooted and non-creeping. Ears are absent. Both surfaces of the leaf are dull in contrast to *poa trivialis*, in which the lower surface is shiny. The ligule is long and white, and the sheath and leaf shoot are flat in section.

(To be continued)

Outstanding Results From Irrigation

The irrigating of swede crops on the Levels plain was very successful last season with the result that this light stony land produced crops unseen before on this area. The failure of the majority of the crops in the rest of the district due to dry conditions further added to the value of the crops which sold at up to £10 per acre for feeding purposes.

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