

The eradication of twitch in a paddock which has been under the plough for several consecutive years is a longer process, as no weakening of the twitch can be accomplished by the preliminary and very useful deep ploughing. When setting out to eradicate twitch, every endeavour should be made to start with a pasture at least four years of age.

The only grass with which "old man twitch" is likely to be confused is timothy. These two may be distinguished by the presence of the prominent ears in old man twitch, which are absent in timothy. In old man twitch the sheath and leaf shoot are rolled, and the ligule is short and blunt. The hairiness in various parts is very variable from plant to plant, and is of no value for the purpose of identification.

Goose Grass

Goose Grass (*Bromus mollis*).—This is a very common annual weed grass occurring in open pastures and waste places throughout New Zealand. It is most common in districts which experience a hot, dry summer, and on this account is usually found in seed-producing districts where old pasture ryegrass seed is saved.

Goose grass, like any other annual grass or clover, is greatly encouraged when paddocks are shut up for seed production year after year. Seed production, when carried out continually, weakens both the clover and the ryegrass, and consequently leaves an excellent opening in the sward for the ingress of goose grass and other annuals.



Fig. 48.—Barley grass is one of several useless annual grasses which gain entry into swards through their opening up subsequent to continuous haying, seeding or tramping. [H. Drake, photo.]

Goose grass ripens its seed somewhat earlier than ryegrass, which results in the shedding of much seed before or during harvest. When this process is repeated several times it is not difficult to understand how goose grass has become practically dominant in many pastures.

The seed of goose grass is, in its natural condition, considerably broader than that of perennial ryegrass, but, if threshed too hard, the sides of the seed are broken off. This results in the goose grass seed being reduced to almost exactly the same shape, size and weight as that of ryegrass. Because of this, seed cleaners have great difficulty in cleaning lines that have been hard-threshed. It is to the ultimate

advantage for farmers to see that the goose grass seed is damaged as little as possible when threshing is in progress.

Although stock do not relish goose grass, they will eat it fairly readily when it occurs in small quantities in a pasture. The control of goose grass in pastures is reversing the process that has made it increase. That is, pastures in which goose grass is bad should not be shut up for seed or hay for several years. As far as possible, grazing should be close, at least up to the middle of the summer. Every endeavour should be made to produce a dense sward of good grasses and clovers.

Under these conditions of strong competition and close grazing, goose grass will diminish. The vegetative characters of goose grass are a rounded sheath and leaf bud, and a small ragged ligule, which is very thin. Both the leaves and the sheath are covered with fine hairs. The base of the sheath is slightly veined, as is that of Yorkshire fog. Ears are absent.



Fig. 49.—Continued cropping and the lack of efficient cultivation result in creeping grass and other twitches taking charge. [S. H. Saxby, photo.]

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with the
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