

## TRACTOR INTER-ROW CULTIVATION

These cultivating attachments are known as knife weeders, and are similar to those used on wheel hoes. When working, the knives are 1 to 2in. under the surface of the soil and cut all weed roots and stir and aerate the soil. They can be set at any distance from the row of crop and are also set to overlap, thus covering all the row. It will be noticed that deer tongues have also been fitted and the purpose of these is to drag weeds after they have been cut and so prevent any chance of their re-establishing. This applies more particularly during wet weather when soil conditions are damp and conducive to root growth. The deer tongues also level off any ridge or cut left by the weeder. The chief advantage of this type of cultivator is that it can very efficiently replace the wheel hoe at this stage of the crop's growth. As with wheel hoes, however, the soil must be dry and friable and contain only a small percentage of fibre for the best results. The slope given to the leading edge of these weeders tends to let fibre slide off and lessens the chances of the knife choking.

Although they are not shown attached to the equipment in the illustration, rear track sweeps are an advantage in loosening up and wiping out the tracks left by the tractor.

### Applying Fertiliser

For intensive cropping, particularly for such crops as lettuce, radish, soft turnip, and similar crops where quick growth is needed, or for any crop backward in growth, a very quick and efficient method of applying fertiliser is by a combination unit of cultivation and fertiliser equipment.

In Fig. 2 attached to the side of the tractor is one of the brackets which hold a fertiliser bin. Fig. 5 shows a fertiliser bin attached to one side of the tractor and another bin is attached to the opposite side. These bins have a capacity of 1cwt. and a sowing capacity of 1 to 20cwt. an acre according to the ratio of the drive of the bin. The quantity sown is regulated by the small lever and ratchet seen on the lower portion of the bin and by the

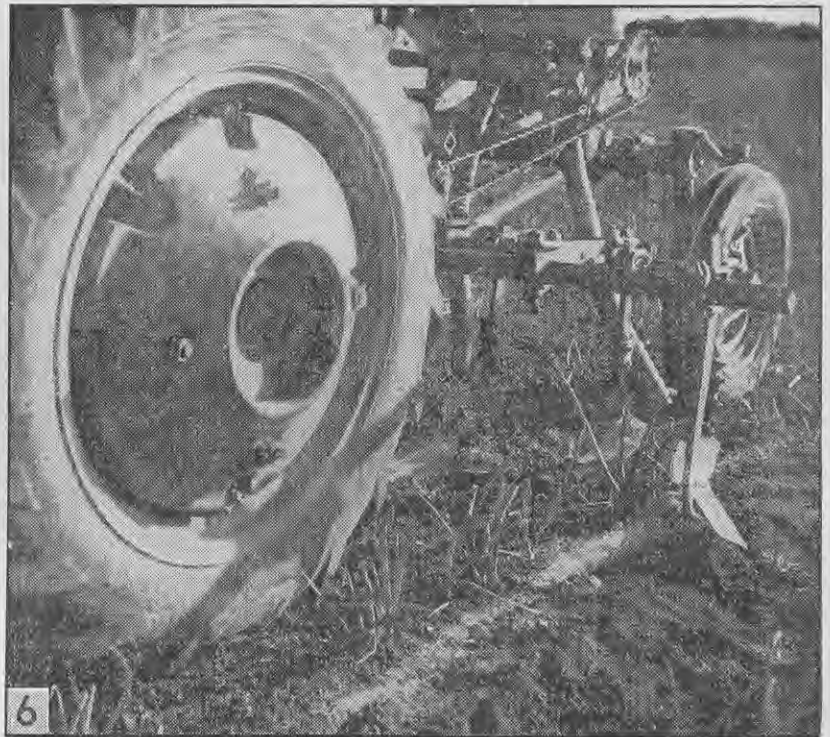
### Radio Broadcasts

**R**ADIO talks to farmers will be given from Station 1YA, Auckland, at 7.15 p.m., on the following dates:—

March 17—"The Work of the Fields Division in Post-war Farming," by J. W. Woodcock, Assistant Director of the Fields Division, Wellington.

March 24—Young Farmers' Clubs session, by S. G. V. Avery, Dominion President of the Young Farmers' Clubs Federation.

March 31—"Kikuyu Grass," by E. H. Arnold, Instructor in Agriculture, Whangarei.



Fertiliser being laid along the side of a row.

drive ratio on to the bin. The mechanism of the bin is star-fed and is driven by the tractor. Fig. 2 shows on the inner side of the back wheel a nest of cogs which operates the bin. The fertiliser is fed down through two flexible tubes in each bin. Fig. 6 shows one band of fertiliser being placed on the side of the row. By using one tube to each row, 4 rows can be done at once. The fertiliser is worked well through the topsoil by the knife weeders. If two bands of fertiliser are required on each row, only two rows can be topdressed. Any cultivation gear will do to work the fertiliser into the topsoil. If the machine and equipment are set up correctly, even fertiliser which would severely burn or damage the crop can be laid in perfect safety at any distance from the row—a far more satisfactory method than applications made by hand.

Similar bins can be used on larger tractors to sidedress such crops as cabbage, cauliflower, tomatoes, or any field crop.

### Heavier Equipment

A very efficient type of cultivator was used on the more mature crops. Although this is a much larger and heavier type than those used on the younger and smaller crops, it was found from experience that it can

work in crops at the same stage as lighter tractors. This can be seen from Fig. 7, which shows the assembled cultivation unit. Although lighter tractors can be put through rows several inches narrower than 21in., this tractor could not work in rows of less width than 20in. For its size the machine is remarkably manageable and it was found that some drivers preferred this unit for inter-row work. Normally this type of tractor is fitted with a twin steel front assembly which makes it impossible to use for any inter-row cultivation work. As can be seen in Fig. 7 the entire front stem axle and wheels have been taken off and a front fork made, and to this has been fitted an ordinary 16in. rim and tyre. This rubber front, which is the secret of the unit's manoeuvrability, has proved a great success and has allowed the tractor to be put into fine intercultivation work.

The cultivator can work to a greater depth than any previous unit described, and it cultivates 4 rows at once. The cultivation units shown in Fig. 7 are known as chisel teeth because of the pattern on which they are made. The overall length of one tooth is 24in. Running from the point up to a height of 6 to 7in. is a knife edge which allows easy penetration into the soil but which does not collect fibre as a blunter and thicker blade would. The