# On the Land

MARKET REPORTS.

There was a large yarding of fat cattle at Burnside last week, 344 head being forward. The bulk of the entry was made up of cows and steers of medium quality. Some of the butchers had purchased their requirements outside and naturally their absence had a telling effect on the sale, especially for heavy-weight bullocks. Prices opened at late rates, but quickly subsided, and all classes receded in value about 30s below opening rates, although they again firmed towards the end of the sale and values improved, closing prices being on a par with opening rates. Extra prime bullocks made to £18, prime from £13 to £16 10s, cows up to £12, and heifers up to £12. Fat Sheep.—There were 2567 penned. A big percentage of the yarding was of ewes of from fair to medium quality. Exporters were operating for lightweight sheep, and prices for this class were firm at late rates. The sale opened at par with late rates, but prices firmed considerably as the sale progressed, and all heavyweight sheep were keenly competed for at from 2s to 3s above opening rates. A few extra prime wethers realised 54s, prime wethers from 46s 6d to 52s 6d, and medium sorts to 32s 6d, prime ewes sold from 36s to 44s 6d, and lighter sorts from 25s to 35s. Fat Lambs.—There was a small entry of fair quality. All exporters were operating at late rates. Prices may be quoted as follows: Extra prime up to 41s, prime lambs from 23s to 40s. Pigs.-There was a medium yarding forward, and these were selling at late crates. Extra prime porkers sold up to £4 8s, prime from £4 to £4 7s, baconers up to £3 12s, and store pigs were selling up to 25s.

At Addington smaller yardings of sheep were forward last week, but fat cattle were in large supply. The market throughout for all classes of stock was firmer. Fat Lambs.-There was a small yarding of very uneven quality and the sale was slightly slacker, with little alteration in export values, which for the best were 123d lb. Extra prime made to 44s, prime 37s 6d to 41s, medium 34s to 37s, light lambs 31s 6d to 33s 6d, stores 27s to 31s. Fat Sheep.—For an average yarding there was a slightly brisker sale. Exporters operated consistently. Extra prime wethers made 45s to 53s 3d, prime 38s 6d to 43s. medium 35s 6d to 38s, light 32s to 35s, extra prime ewes 41s 4d, prime 34s to 38s, medium 30s to 33s 6d, light 26s 6d to 29s 6d, aged 22s 6d to 26s. Fat Cattle - There was another heavy entry of 575 head, mostly cows. Good steer beef and best cow and heifer quality sold at from 25s down to 15s a head better than on the previous week. Best steer beef made 36s to 39s per 100lb. medium steer and ordinary cow beef 32s 6d to 36s. Rough was down to 20s. An export Im operated for the first time this season. Extra prime steers made £18 12s 6d, prime £15 10s to £17 15s, medium £12 15s to £15 5s, light £10 to £12 10s, rough £6 15s to £9 10s, extra prime heifers £13 2s 6d, prime £9 15s to £11 10s, medium £5 10s to £9 5s, extra prime cows £13, prime £9 to £11,

medium £5 15s to £8 15s, light £4 to £5 10s, aged £2 15s to £3 15s. Vealers.—A large entry of good handy weight calves sold at an advance on late rates. Runners made to £6, good vealers £3 5s to £4 15s, good calves £1 15s to €3. Fat Pigs. There was a medium entry of perkers, which sold at an advance on late rates. Baconers sold firmly at the previous week's values. Choppers made £3 10s to £6, light porkers £2 10s to £3, heavy £3 3s to £3 14s. The average price per lb was 7½d to 8½d. Light baconers made £3 18s to £4 10s, heavy £4 15s to £5 2s 6d, extra heavy £5 12s. The average price per lb was 7d to 8d.

### CLOVER AND SOILS: SUPPLIES OF NITROGEN.

The ploughing under of a clover ley is an effective and economical method of securing for the use of the following crop a supply of uitrogen. Scientists have shown that the nitrogen is obtained from the air through the agency of bacteria which attach themselyes in nodule form to the roots of the clover crop and convert atmospheric nitrogen into a form suitable for the neurishment of wheat or oats or any other crop.

That is one of the advantages of a clover crop; there are others, for instance, the roots of the clover plant penetrate deep down in the soil, and gather supplies of mineral plant foods which are not tapped by other farm crops with shallower root systems. In this way a considerable amount of valuable fertilising material is brought nearer to the surface and available for the next crop.

Clover also supplies the soil with humus, making the surface soil deeper, more mellow, and more capable of retaining moisture

It is not a difficult crop to grow on suitable soils, but farmers who cultivate it must take care that there is an adequate supply of lime, phosphates and potash in the soil.

The enrichment of soil by clover crop residues has been demonstrated very clearly in some experiments carried out at Rothamsted. In one case when an extra large crop of clover was grown, notwithstanding the fact that the crop yielded between 3 and 4 tons per acro of clover hay, yet the wheat crop which followed was 15 per cent. better than the wheat crop on the other plot following the wheat, although similarly manured in both plots, was also better when the clover had been grown; even the barley, which came next, three years after the clover, showed a decided superiority in the clover plot.

Thus the clover crop, itself wholly removed from the land, exercised a marked influence for good on the three succeeding crops grown under ordinary farming conditions.

## PHOSPHATES AND FARMING: KEY, TO PERMANENCE.

Agricultural scientists have emphasized the fact that phosphorus is the master key to permanent agriculture. Exhaustive experiments in practically every agricultural country have shown that this is so. The application of phosphates to grass land greatly encourages the growth of clover. Clover enriches the soil in nitrogen. Wild white clover, which is a humble plant of marvellous value, forms a most important and economical means for soil enrichment.

Dr. Shutt, of Ottawa, found that the amount of nitrogen in a crop of clover weighing nine tons was equal to about 5½ cwt. of nitrate of soda, while the decayed material on the surface had as much nitrogen per acre as in about 4cwt. of nitrate of soda. Professor Gilchrist has also shown how greatly a wild white clover ley becomes enriched in valuable nitrogen and this effect increases the grass grown with the clover as well as the following corn and root crops.

The best method of enriching the soil of pasture in nitrogen is to encourage leguminous plants by the judicious use of phosphatic manures. In the Tree Field experiments phosphatic manures increased the soil in nitrogen by the equivalent of about 5cwt. of nitrate of soda per acre. Dr. Vanstone, of Scale-Hayne Agricultural College, has shown that the application of phosphatic manures results in:—(1) A great increase in the live weight of sheep and cattle; (2) Increased milk production; (3) Increased hay crops by as much as 10 cwt to the acre; (4) A gain in the fertility of the soil.

There is no doubt that from all points of view the field test is the one reliable method left open to the farmer for ascertaining the comparative values of phosphatic manures. By conducting actual field experiments and applying equal quantities of phosphoric acid (P205) per acre he is enabled to arrive at a true result, but in order accurately to estimate the comparative values he must not only take into account the initial cost of the fertiliser, which is relatively small, but he must specially take note of the value of the crop produced.

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