THE FARM.

DOES IT PAY TO MANURE PASTURES?

(New Zealand "Farmer").

The manuring of various farm crops has received generally much more attention than the top-dressing of pastures or grass land. This fact may be chiefly because it is easier to determine the yields from manured and unmanured sections of most crops than it is in the case of pasture land. The difficulty of obtaiing efficient and reliable farm labour also prejudices many thoroughgoing farmers from accurately carrying out experiments on their grass paddocks. Nevertheless grass land—especially that subjected to constant cutting for hay or seed, or for heavy grazing—requires feeding with fertilisers as much as any farm crop.

An experiment carried out recently by Mr Rudolph Neas, Waikiwi, near Invercargill, is consequently of interest. The test, which was undertaken privately was supervised by Mr W. Alexander, Fields Instructor of the Agricultural Department.

The pasture consisted of ryegrass and white clover, which was sown down with an oat crop in the spring of 1918, and had carried some cattle during the following winter.

Realising the almost general want of phosphatic manure in our New Zealand soils, the following plan was adopted, the plots being each one acre in area:—

Plot 1—Basic Super. . . 2cwt per acre.
Plot 2—No manure (Check plot).
Plot 3—Basic Super. . . 2cwt per acre.
Nitrate of Soda, 1cwt per acre.

The basic super was applied in the second week of October, 1919, to both plots (1 and 3); the nitrate of soda, which manure is extensively used for grassland in Great Britain, etc., was given as a separate top-dressing at the end of October. The young grass had already shown considerable growth before the manures were put on, so that better results, particularly from the basic super would doubtless have been obtained had this fertiliser been put on some six or eight weeks earlier.

The effects of the manures were very evident to the eye; whereas the basic super plot only appeared to be a little more dense than the control plot. On looking over the standing grass crop it was quite easy to mark where the nitrate of soda plot commenced in consequence of the heavier growth greener foliage, and also by the prevalence of a greater amount of clover.

The season could not be considered a favourable one, and the ground was unlimed, otherwise the yields would have been no doubt heavier.

The plots were cut for hay for the first time, and from now on will be chiefly used for grazing. The yields were carefully ascertained as follows:—Plot 1: (Basic Super.), 2tons 14cwt. 1qr. 7lbs; Plot 2: (Control), 2tons 3cwts. 21lbs; Plot 3: (Basic Super. plus Nitrate of Soda), 4 tons 9cwts. 3qrs. 10lbs.

The increased yield of plot 3 over the control plot, viz., 2tons 6cwt 2qr 17lb was worth just about £14 per acre, calculating the value of dried hay at the recent ruling price of £6 per ton. The cost of manures for plot 2 was 16s per acre; for plot 3 the cost was 56s per acre, and the net profit by manuring at current prices was £11 4s per acre.

Does it pay to manure pastures? Consideration of the above result will answer the question so far as this Southland instance shows.

On a pre-war basis, nitrate of soda cost £16 per ton and basic super £4 15s per ton, therefore the manures for plot 3 would have cost 25s 6d per acre; and even valuing the hay at only £2 10s per ton, a net profit is deducible of about £4 11s per acre.

At no time is it more necessary to manure crops and pastures than when labour and farm products are dear. The above comparison shows that even at the current prices of manures manuring of pastures is a worthy consideration.

Mr Neas intends continuing the test this year.

VALUE OF SILOS.

Six years ago there were about twenty-silos in the State of Colorado. In 1919 there were over four thousand. Colorado raised no maize ten years ago. The crop this year is valued at 125,000,000 dollars. Mr R. W. Clark, of the Colorado College of Agriculture, says the silo is doing wonders in this State. The year 1916 was very dry in some sections. One farmer was compelled to fill his silos with Russian thistles and thereby saved 110 head of steers. He was offered ten dollars a head more for his steers in the spring than he was offered in the autumn. One farmer saved himself from financial ruin by a silo that he filled a year or two before. Another farmer bought and hauled maize six miles for his silo, and this kept him from being sold out. The college authorities recommended everything for the silo in case of necessity. Crops and weeds of all kinds have been used successfully. The silage is not always the best, but it prevents starvation and enables the farmer to retain his home and keep his family together. Colorado farmers are learning that the silo will "tide them over" in years of shortage, and more will probably be built next year than were this year.

THE PRINCE'S RANCH.

Purchases at the recent English Shorthorn sales included several for the Prince of Wales' ranch in Alberta, Canada. The ranch, which extends to 7000 acres, has been promptly designated by the Canadians the "E.P." ranch, the initial letters of "Edward, Prince," and was formerly part of the Bedingfield property. It lies among the foothills of the Rocky Mountains, about 50 miles south-west of Calgary, and quite near the village of Pekisko. The agricultural correspondent of the "Times" states that the soil is a rich alluvial loam, and the grasses it carries are luxuriant and provide good feeding for stock in summer and winter. The climate is severe, but cattle and horses can be outwintered with safety and advantage. There is as yet no arable land on the "E.P." ranch, but it is contemplated with the view of adapting it the better to the requirements of the improved classes of cattle and sheep which it is proposed to introduce. With the same object suitable buildings and fences are to be erected in due course. The ranch is to be stocked with cattle, horses and sheep. The stock to be sent out from England will comprise Shorthorn cattle, thoroughbred horses, Dartmoor ponies, Dartmoor-Arab crosses, and Shropshire and Kerry Hill (Wales) sheep. Shorthorn cattle breeding will be a principal enterprise, and the branch is capable of carrying about 700 head of cattle in addition to other stock. The intention is that in due course the ranch should be the home of a herd of pure-bred Shorthorns of the beefing type, and should be of outstanding importance to the industry of stock breeding in Western Canada.

HORTICULTURE.

The shortest day past we instinctively look forward to spring and summer, and in our gardens direct our attention to what has been neglected in the late autumn and early winter, as well as begin our planning for the work ahead of us with hopes and expectations of earlier and better flowers and vegetables, than ever we have had before. The season has been such that we have passed the shortest day with comparative comfort so far as our gardens are concerned and everything is looking well for the season. Autumn sown seedlings are looking well especially those self-sown. Sweet peas have made a nice clean healthy growth, and with ordinary care and attention with the necessary tying and staking, promise to give good early results. Pansies and violas simply require watching, and the surface of the soil kept free and open by forking. Early daffodils are showing through the ground, and to help them along as much as possible the surface of the soil should be kept free and open. In fact as harder frosts may now be expected it is a great advantage to all spring bulbs and plants, which are now naturally coming into active growth to have the surface of the soil as free and open as possible so that the air may get into the soil and the fullest benefit of every ray of sunshine may be taken advantage of, and in such a condition it will be found that even the frost itself tends to pulverise the surface and let in the atmospheric nitrogen whilst a sodden surface simply becomes a sheet of ice.

Get a good sprinkling of salt on your asparagus bed before the plants start into growth and it will kill the weeds (which are so difficult to get out of the hard crowns of the plants, if they are allowed to get there) greatly assist the growth, and counteract the effects of frost. It would be a blessing if salt agreed with everything so well as it does with asparagus.

See to your early potato sets, and get them sprouted ready for planting as soon as the proper time arrives.

Sound passing through air at the freezing point of water reaches 1089.42 feet per second, and increases 2 feet per second with every rise of 1 deg. C in temperature.

GARDEN NOTES.

PRUNING SMALL-FRUIT TREES.

The goose-berry is one of the most useful and one of the most generally grown of all small fruits, and it has caused more competition at shows than any other, though of recent years the keen competition seems to have cooled down somewhat. In my younger days the competition was very keen, more especially among mechanics and the labouring class. It was a common thing to see at shows gooseberries that ran 8 or 10 to the pound. To get such fruit takes care and attention. Trees must be well pruned and trained; severe fruit-thinning is also necessary. The growers used to also adopt other means, such as drawing down the branches to near the ground, and placing saucers of water immediately under the green fruit close up to it, so that the moisture from the water be inhaled by the fruit, making it grow to a great size. To get shapely bushes and good fruit it is necessary that the pruning be done properly. If no thining out was done, and all the shoots were clipped off nearly the same length, as I have seen done, the bush would be nothing but a mass of growth, and in such a state that it would be almost impossible to get the fruit picked. The way to go about it is this: Cast your eye all over the bush and cut right out all cross shoots that are not pointing outward. When sufficient thinning is done so that one can get his hand freely into the bush, all the young stout shoots that are left—those that should in all cases be selected for the production of good fruit—should just have a few inches taken off the points. See that all branches that are close to the ground be removed. The object is to secure uniformity of growth and such openness as will enable the light and air to circulate freely and to cause good, strong, young growth to be made. Prune upright growers to cause them to grow outward and as open as possible. With drooping kinds the object as far as the shape of the tree is concerned is to induce them to grow upward. Otherwise if left to themselves, they would grow down, until the points touched the ground. If allowed to do this the lower branches would fasten themselves to the ground and become a source of annoyance. In pruning young bushes at planting, if a young bush has three shoots prune back to three or four eyes on each. In all probability two of these eyes will break on each shoot, and this will form the basis of a good bush. From the second pruning onward this short pruning must be avoided. In the case of upright back to one eye all surplus growth and laterals, leaving only good strong shoots that are pointing outward and at such distance apart as to allow the hand to be inserted with ease without fear of being severely scratched. Then a few only of the points should be removed. The pruning back of all shoots, as I have seen some do, makes it almost impossible to pick the fruit, and also impossible for the tree to produce fruit of first-class quality. For drooping kinds all very low shoots should be removed first, then all surplus shoots and laterals, selecting only shoots that point outward and upward, and shorten by a little these shoots. The whole object should be to keep the trees open and shapely, and to cut sufficient wood away each year to cause fresh growth. This keeps the trees young, as it were, and in the state calculated to produce fruit of the best quality. A deep digging around gooseberry bushes should be avoided. Merely keep the surface open, and give a mulching of manure when required.

With black currants the same principle should be carried out, though not to such an extent. If the cuttings are put in in the orthodox fashion, 12 or 14 inches in length with four eyes at the top and the rest removed, three or four good shoots will be the result the first year. These should be shortened back to about 6in the first season. You will then have a bush the second season with 8, 10 or more good strong shoots. From this onward they are established plants, and should be treated differently. Thin out by cutting clean away all surplus growth, and make the bush light and airy. Shorten back the young side growths to about 6in in length. The leading branches will only require just the points removed. As the black currant produces its fruit upon the young wood it is necessary that the strongest and best of these young shoots be selected.

Red and white currants fruit upon the old wood as well as the new. Their pruning should be modified. Cut out all thin and surplus growth, leaving only strong shoots and those pointing outward and in the right direction. These should be shortened back to one-half their length, as there is always a danger of these young shoots splitting down at the bud of the shoot when they are in their young stage and green if long pruning be adopted.