

CANTERBURY PASTURES, .

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I have been asked to introduce the question of "Canterbury Pastures" or "Seed Mixtures for Canterbury." The actual title is really of little importance for if I can, by any means, provoke a discussion and bring considered opinion to bear on pastures and pasture management in Canterbury, then I shall have achieved something. Our pasture land generally is not on the upgrade in regard to 'production.

I would have-expected that at this juncture everything relative to seed mixtures and types of pasture would have been discussed and be well known, . and that I shall be merely repeating, Be that as it may, I shall repeat.

Canterbury pastures can be divided into three types -

- a(a) Temporary,
 - (b) Short rotation,
 - (c) Permanent, all of which are largely required for sheep carrying and fat lamb production, Except on wheat land where seed production is an important branch of Grass farming, the lands on which they are grown can roughly be divided into -
- (1) Wheat plains,
 - (2) Plain lands,
 - (3) Hill country.

WHEAT LAND.

On the wheat lands the pasture may be temporary, short rotation or permanent. They are used for fat lamb production. The whole of the area is subject to fairly long dry spells, often accompanied by dry nor'-westers. On most wheat farms there is a definite area of permanent pasture which, owing to the dry spells, is often pinched to meet these spells, the temporary pastures being utilised to supply early spring feed.

The bulk of the temporary pastures are formed by Italian ryegrass and red clover sown at the rate of 30lb. Italian to 4lb. red clover. The success and value of this mixture depends largely on the preparation of the seed bed and treatment at sowing. The usual time to sow on the Plains and coastal regions is in the autumn. Best results are obtained from February - early March sowing. Late sowings are frequently the cause of failure, especially if early frosts are experienced. Other causes of failure are lack of fertiliser, bad working of seed bed, improper aeration, of seed bed, that is, land is merely ploughed over and worked down and seed put in immediately. The latter is the more common cause for unsuccessful strikes, and can be avoided if the grower would only recognise that fact that no seedling will grow well, on unaerated soil. Where a good strike of Italian is obtained, in the normal season, it is ready for grazing in 5 to 6 weeks, or even less, and will carry a heavy stocking through the winter, and, if shut up in early November, will give a yield of from 40 to 60 bushels of seed. If the red clover strikes well and the paddock is left for a second season it nil? give wonderful summer feeding. Should the red clover fail, the paddock is ploughed in late summer or early autumn.

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On wheat lands along the base of the hills sowing of temporary pastures is generally carried out in spring, with wheat or oats. The grass is then ready for grazing in autumn and again provides winter and spring feed, with red clover for a second, third and even fourth season, the farmer being misled into thinking that, because it has given one or two excellent seasons, it must be good for a longer period. This practice is, I am glad to say, largely disappearing as the farmers are better informed and recognise the temporary nature of the plants used and do not retain them on chance. Undoubtedly it is the abuse or wrong use of these temporary pasture plants that has given rise to the severe criticism meted out to Canterbury pastures. It does not follow, however, that because the criticism was justified 10 to 15 years ago, it holds good to-day. Evidently our Critics forget the old adage "Give a dog a bad name, etc.," and fail to recognise any improvement in our practice.

Short rotation pastures on much of our wheat land have been unsatisfactory in the past. This may be occasioned by the use of either Italian ryegrass alone as already mentioned, or by the use of large proportions of Italian in the mixtures. As I pointed out once before, we, in New Zealand, followed, in many cases in the early days, the English practice in regard to our pastures but, unfortunately, we did not follow their developments. There in the 80's and 90's, the usual mixture for a rotation pasture was Italian and perennial ryegrass 50/50, with 3 or 4 lb. red clover thrown in. The settler in New Zealand used this mixture, and with extraordinarily good results in comparison with the tussock. As farming developed the farmer failed to recognise that, while this mixture gave excellent returns in the first and second seasons, it was useless in the third and fourth. It seems to me that he regarded this as a necessary occurrence. The attitude was well expressed by a farmer with whom I tried to reason the matter out some years ago, when he told me that that was the mixture his father always used and that a rotation pasture always failed in the third and fourth years.

The confusion has probably become more confounded by reason of the fact that very often seed was sown from these mixed pastures. It would be difficult to hazard what this seed represented. It would contain a portion of pure Italian and pure perennial, together with hybrids. If sown by the Canterbury farmer, as it often was on the assumption that the seed was a 50/50 mixture, one can readily comprehend the reason for the decline of the Canterbury pasture, but when sown or sold and distributed by a dealer a's perennial it is not hard to explain how the reputation of Canterbury perennial suffered. The whole of the blame cannot be laid at the door of the farmer. The dealer, who could not be classed as a seedsman, bought the seeds and passed them on under the name that commanded the best price. He was unable to distinguish perennial as such. Since no enquiries were made, as to history or inheritance, his only standard was bushel weight, and so long as it was heavy it was considered good. This is the explanation for the poor type Canterbury Perennial Ryegrass.

Reforms, however, can be affected. The fact that this state existed 10 to 20 years ago does not justify the commendation meted out to Canterbury Perennial to-day. The farmer and seedsman are now alive to their business and grow and buy perennial on its performance. This fact is demonstrated by the number of short rotation crops now seen. For these pastures an indigenous permanent type of perennial is sown. Where seed is to be saved the usual seeding is 35 to 40 lb. perennial, 3 to 4 lb. red clover, sowing cultivation and manuring being the same as for temporary pasture. When a pasture only is desired 25 to 30 lb. perennial to

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8lb. cocksfoot, 2½lb. red clover and 1lb. white clover is sown. These rotation pastures are largely responsible for the demand for Danish type cocksfoot which grow more quickly and are in evidence in the pasture sooner than the true grazing type. True meadow, fescue and timothy have also been successfully included in rotation pastures in areas with a higher rainfall or low lying lands, but this case is very restricted owing to the difficulty of obtaining seed. In the main the grasses used in the rotation pastures are perennial rye and cocksfoot. Quite often 3 to 4lb. of Italian is substituted for an equal weight of perennial to give an early bite or a more vigorous crop of hay in the first year. Other grasses, such as dogstail, which are sometimes recommended, should not be used.

PLAIN LAND.

The plain lands, which probably represent the largest portion of the Canterbury low country sheep land, range from light shingle soils to medium land just on the border line for grain growing. The grassing of these lands represents one of the biggest problems in Canterbury to-day. Strange to say, so far little attention has been given to grassing these lands. The question of grasses for the medium to better lands has been the only one investigated, and much has been said and written about grassing such lands, yet in most cases the farm, rather than the grass is at fault. Better farming and use of grasses available would raise the production of these lands. On the light lands, however, even the very best farmers are unable to get pastures to hold. The position cannot be met by the introduction of high production grasses from rich lands or exotic plants from other countries. What is required is an indigenous type suited to the low fertility and moisture conditions of these areas. More attention should be given to evolving strains of grasses for and on these areas. There is ample evidence that true ryegrass and cocksfoot groups of grasses have within themselves strains suitable for our light lands. So far these strains have not been isolated. Work in this direction is badly needed to enable farmers to improve their position and stock carrying. Again I would say that the position must be met from within rather than by suggestions that exotic grasses might be used, or high production grass types could be grown if the fertility of the land was raised. Fertility is not the limiting factor.

At present the plain lands are generally grassed with a mixture of perennial ryegrass and cocksfoot and clovers. Temporary pastures of Italian are little used for the simple reason that the very short life of the pasture gives such a poor return for the cost of seeding, etc. With the perennial cocksfoot mixture a longer grazing is obtained, but, as already pointed out, the bulk of the plants fail to hold owing to the unsuitable conditions. The necessity of the constant regrassing of these plain lands has considerably reduced their value, and since the slump period when, in many places, regrassing was either neglected or done in unhusbandlike manner, the pastures have shrunk in production. One can only hope that this Conference will at last adopt a policy and offer a scheme to deal with pasture plants suited to the various soil types in New Zealand, and thus become a power for good in the land rather than a body whose members are mainly concerned with pushing their own claims to or for meritorious praise.

Our foothill and high country have had little consideration, and yet it must be apparent to any observer that these

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lands are declining in value and production. I cannot say what could be done to improve them, I do think that something might be tried - some experiments with grasses or selection of grasses for the areas are demanded. At least it could be determined whether the decline is consequent on the occupation. I would go further and say that attention to low fertility lands and hill lands is far more necessary and important than attention to high fertility lands on which the pastures are poor, not because they need be poor, but because of bad farming. What is wanted on these lands is better farming which can be brought about by educating the farmer. With the lands low in fertility, thorough investigation is the first need and should be undertaken at once.

Perhaps I have said enough.

I know I shall be asked if the temporary pastures and rotation. pastures I have discussed are justified, My reply would be definite. Yes. The season just passed has proved that on most Canterbury farms wintering of stock without them would have been almost impossible. I know the counter to this. Figures have proved my statement wrong. What figures? Results of grazing trials. I might ask, have any grazing trials been carried out in New Zealand? Of course I would be told that there have been, and that they have proved so many sheep days grazing have been obtained from temporary, rotation and permanent type grassing, proving, etc., etc.

Does anyone know what a sheep grazing day means?

Most of you would answer that if a sheep spends a day in a grass paddock it must be grazing - is it? Does it follow that if you spend a day in bed you are asleep all the time? Yet bed and sleep are usually associated. Sheep day grazing is the most deceptive term I know. Who knows whether the grass is eaten and how much is eaten? The experimenter, of course. He enters the paddock and decides that the grass is not all eaten. Does he consult the stockman or shepherd? If he did he would probably find in some cases that stock only exercised in a paddock; especially in feed they do not like. Stock and sheep have brains. If they find they are being changed alternatively from good to bad feed, they gorge on the good feed and merely rest on the bad feed, but taken in days the bad may be equal to the good. Unless some means is found to determine the weight and food value of grass eaten by sheep, comparison by grazing days in a farce. Worse, it is misleading in that the poorest pasture may give most grazing days.

Further, I might ask does the grazing have the same value at any or every season of the year? I am reminded of this by a set of figures comparing temporary with permanent pastures. The grazing days on the temporary pastures were taken from April to October. Those on the permanent pasture from October to March. The latter pasture gave the greater return in sheep days, and, according to the table, was the more valuable pasture. This is paper farming in extreme. Ask any stockman during which period feeding is most important. I think even members of the Grassland Conference would understand that feeding of stock is more difficult in winter than in summer. Even if it had been established that sheep eat an equal amount per day of any feed, the method of comparison by sheep day grazing would still be valueless until relative monthly values can be assessed.

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I don't know what the object was in asking me to read a paper on Canterbury pastures. I have nothing *new to* offer you. Perhaps the secretary thought it might either keep me quiet or *force* me to provoke a discussion. Whatever the idea, I have tried to be as provocative as possible and I sincerely hope that a healthy discussion will result. I ask for a discussion on the points raised, not a personal assault. I want to say quite frankly that, unless we are prepared to criticise the views of one another, this Grassland Association will develop into a mere farce, and defeat absolutely the purpose for which it was formed, viz., stimulating greater interest in the development of our grasslands. The object can be attained only by taking the widest view and working for the interests of the Dominion as a whole. With those interested co-operating in a policy towards that end, instead of working in water-tight compartments and crying hands off like a lot of children playing hide and seek when a hiding place is found, it is calimed by the finder as a right because of being first in.

Our criticism of one another at a previous Conference reminded me of the story of the faith of the good lady in the integrity of her sons when she said that she was sure her sons' never did anything they should not do because she noticed that each morning when they got up, the first thing they did was to take a drink of cold water. We could with advantage to one another be more candid in our criticism and be equally appreciative of one another with less patting on the back,