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PRACTICAL ASPECTS OF FERTILISER USE

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INTRODUCTION

I once worked as an Agricultural Advisor with a past President of the Fertiliser Association of Ireland, Gerry Foley — as my boss. He directed me, when sending out Comparative Analysis figures to farmers who were keeping Farm Account Books, to practice the following procedure:

- Farm Income/ac £ spent on fertiliser/ac
- Top 5 farmers/ac £ spent on fertiliser/ac

and invariably the message was clear and forceful. As fertiliser expenditure increased so did income/ac. Matters in farming have become more complicated since then and examination of all previously normal practices is necessary.

For this reason, I want to present four areas in my own farming experience which may be of help towards wiser use of fertiliser:

1. Use of Potash
2. Trace Element Levels for Livestock
3. Nitrogen Levels in Grain Growing
4. Basic Dressings on Pasture for Grazing

USE OF POTASH

A general observation on the farm is that wherever ditches and hedges are bulldozed, or hedge cuttings burned, the sites always produce luxuriant healthy crops for many years afterwards. In 1978, an extra field was bought. Since it had been meadowed continuously for many years, without much fertiliser treatment, it was decided to have the soil analysed. It was thought that potash could be a limiting factor in production. The soil test showed a low potassium level of 29 ppm so in addition to the normal annual fertiliser used, an additional 60 to 90 units of K/ac were applied, depending on the grain crop. In the four years since then, the yield of grain has increased from two to three tonnes/ac which is a return of about £100 for every £10 spent.

Because of this response with the higher K application, an extra straight dressing of 1 cwt Muriate of Potash/ac will be made this year on another hundred acres of grain ground. This is mainly in Winter cereal crops which have a higher demand and a longer growing season to use the K. The same rate will also be used on Spring barley which is grown on land that is in continuous grain for 15 years. On the continuous grain growing land of the farm, K deficiency is suspected, because on the fire sites of the hedge cuttings crop responses are evident, even where the straw is burned. Since straw burning is becoming a more widespread practice in certain areas of the country, there appears to be room for research into potash topdressing in such situations and the communication of the findings to farmers.

TRACE ELEMENT LEVELS FOR LIVESTOCK

As farmers intensify their output and fertilisers become more refined, or single purpose the chance of trace element deficiency showing up, becomes greater. The demise of Basic Slag is an instance of this change. In a beef production system on our farm, 6
cwt bullocks are fed to finished weights, either on grass or silage. One difficulty with this system is that the animals may be mineral deficient when bought from farmers in the West or South.

Nowadays, the animal of 6 cwt is a lot younger than some years ago and has no great reserve of minerals in its bones. In the past, store cattle were bought from mid-January to mid-March, or before the time when farmers generally buy animals for grazing and the price per head reaches a peak for the season. These cattle were usually fed a maintenance diet until going out to grass in early April. Despite a reasonable level of feeding and dosing with good general husbandry, there are five or six bullocks with poor thrive going to grass and they remained so until well into the grazing season. For the past four years, one to two lb of barley has been fed plus a mineral supplement for about four weeks before the start of grazing and this has given excellent results. Consequently, the number of poor performance cattle has been reduced to nil since the roughage diet has been supplemented. This experience suggests perhaps that the Fertiliser Industry and ACOT could be giving some more attention to the relationships between fertiliser use and feeding mineral supplements to bought-in cattle.

**NITROGEN LEVELS IN GRAIN GROWING**

An outcome of the debate about systems of grain growing, e.g. Gallagher versus Laloux, was not who the winner was but that traditional methods were challenged and opened to examination. This has caused a gradual realisation amongst farmers that with newer varieties, very high levels of N can be used without the crop lodging. Higher N usage has become widespread both for Winter grain and Spring barley and some data from our farm confirms the practice as beneficial:—

<table>
<thead>
<tr>
<th>5 Year Period</th>
<th>LB N/ac</th>
<th>Gross Margin/ac (£)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1973–77</td>
<td>37</td>
<td>£ 98.00</td>
</tr>
<tr>
<td>1978–82</td>
<td>71</td>
<td>£158.00</td>
</tr>
</tbody>
</table>

This means that an expenditure of £5–6/ac gave a return of £60. Is it possible that a fear of lodged crops causes advisors and farmers to tolerate less than optimum levels of N on Spring barley?

**BASIC DRESSINGS ON PASTURE FOR GRAZING**

Because our grazing fields are unsuitable for cutting they are grazed continuously in a rotational paddock system. The area has been well managed for fifteen years and this past year (1982) produced in the region of 1000 lb liveweight gain/ac. It received a basic dressing of 0–7–30 compound fertiliser annually but now every third or fourth year this can be saved without a fall in the production. This leaves more money to spend on something else — perhaps N for the Spring barley. There may be room here for interested parties in the Fertiliser business, ACOT and AFT to co-operate in a ‘more efficient fertiliser use’ campaign, aimed at the group of farmers who have been applying all the good advice on fertilisers for the last 10–20 years.
CONCLUSION

These four examples show that there are undoubtedly increased income possibilities in using more fertiliser provided that the balance is kept right in the other parts of the equation.

At the moment, farmer confidence is very low because of various happenings over the past decade and not just the income fall of the last four years. Those involved in the fertiliser industry must keep this in mind — because the climate of opinion in farming is ill-equipped to hear price increases for fertiliser. As well, confidence in the economy is at such a low ebb that the slogan “produce more to get higher income” is falling on very cynical ears. This will continue to be the case until it becomes evident to farmers that the extra production will not cause market collapse or be used by processors e.g. Meat Factories or Millers/Compounders to depress prices.

There is a feeling of siege and persecution amongst the farming community and the farming community and the normal reply to that is:

“pull up the drawbridge, lower the portcullis and live on half-rations”.

Such an attitude is of little help to other sections in an economy where all are closely inter-related. The biggest task is to change the atmosphere in which the farmer operates.