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A MAJOR DEVELOPMENT
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AGRICULTURE – REPORTS OF ITS DEMISE
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WINTER MEETING – NOVEMBER 19th 1993

Publication No. 34
EXTENDED GRAZING
A MAJOR DEVELOPMENT

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The developments in relation to extending the grazing season, winter grazing, long rotations, feed budgeting etc., which received an enormous amount of attention during the last twelve months, are viewed by some as representing a modest, though worthwhile, refinement of the existing approach to dairying while others view them as the most important advance in terms of increasing farm profits for a long time. While it is early days yet in the development of this approach to dairy herd management and some of the ideas will be modified or dropped altogether I am of the opinion that it does represent a major and potentially very profitable development in dairy farming in Ireland.

The benefits to be derived by the individual dairy farmer depend on present farming practices. Those who have not practised early turnout and who relied heavily on making and feeding a lot of silage including third cut silage will have most to gain. However even those farmers whose dairying was based on the Moorepark blueprints, which always emphasised early turnout and making maximum use of grass, can also incorporate the newer ideas into their farming practises and improve their profitability.

Potential Benefits

1. Late Season Grazing. The emphasis recently has been on long rotations in the second half of the grazing season from which some benefits may derive. Third cut silage cuts certainly seem to be redundant at this stage. It makes sense to save the cost of silage making when the grass can be carried forward until November/December.

Recent Moorepark trials have shown that there may be disadvantages from going to long rotations too early in mid-season which can lead to swards deteriorating and reduced milk yields. However it may be possible reduce second cut silage somewhat with very careful planning so as to extend the grazing season.

2. Early Grass. I strongly suspect that early turnout has the most potential in terms of reducing costs. When planned correctly the amount of concentrates fed can be greatly reduced. Some silage can be saved also but in my view the emphasis should be on concentrate saving. The techniques for grazing in wet conditions seem to work but the farmer must be very alert and very flexible. On slow draining soils in high rainfall areas soils may be badly damaged so great care will be required.

3. Milk Composition. Partially replacing silage by grass has improved milk composition, in some cases by large amounts. In early lactation in particular when milk yields are high this improvement in milk composition will improve profitability.
4. Other Factors. A number of other factors have been listed by farmers. These include less mastitis and less foot trouble, easier to clean cubicles and scrape passages while cows are out grazing, and a more pleasant work routine all round when cows are out even for a few hours per day. Less slurry storage and silage pit areas will be required but where these are already in place no savings will be made.

These latter benefits are difficult to quantify but nevertheless they are real.

5. Review of Dairying System. One of the unexpected benefits from recent developments may be that it will cause us all to thoroughly re-examine our whole approach to dairying. Looking at the approach to grassland management recently I was struck by the fact that cows can be quite seriously restricted for a short period in early lactation provided they then go on to a plentiful supply of grass before the lactation is too far advanced. Perhaps we could incorporate something similar into our dairy herd management system. There are a range of ideas we might try and we can only benefit from a root and branch re-examination of our approach to dairying.

**Avoid Mistakes of the Past/Build on Recent Advances**

We have had systems based on very early turnout combined with less than 5 tonnes of silage per cow during the 1970's. Silage ground was grazed twice before closing up in early April and cows were left out until December. The system fell into disrepute because it did not work satisfactorily and milk yields were poor. The reason why it did not work was because there was not enough grass for the cows after the first grazing and the cows were not eating enough grass. Closing up for silage was delayed 80 silage quality was poor. Cows were left out in the autumn when grass had got scarce and so lost a lot of body condition. They then calved down in poor condition on poor quality silage and had to go out early again because milk yields were so poor indoors.

We moved away from these systems to rely more heavily on silage and concentrates. We must learn from the mistakes made during the 1970's and devise a system which reduces costs of production without seriously reducing milk yields. I believe it can be done and is being done by a number of dairy farmers who are pioneering the development of new ideas in grassland management at present.

While we must avoid the mistakes of the past we must also be sure to integrate the important concepts of grassland management developed by research in recent years into any new system of grassland management. One of the most important of these concepts is that grass should be grazed tightly in the early season so as to maintain grass quality in mid season and then the grass should not be grazed too tightly in mid season or milk yields will suffer. We should therefore avoid restricting grass intake per cow in the second half of the grazing season which is likely to happen when rotation length is increased to build up grass for late season grazing. Depressing milk yield per cow in late summer so as to have grass in early winter is unlikely to make much sense.
There has been a tendency among some to link the newer ideas on grassland management with later calving in the spring. This I believe is a mistake. Each concept should be examined and justified in its own right. Calving date certainly will influence the precise timing of spring turnout but the concept of extended grazing etc. can be and have already been tried out successfully in herds with autumn calving cows. I believe these concepts are applicable in early calving herds, in late calving herds and in liquid milk and winter milk herds. As I have already said the issue of calving date requires further investigation especially for high genetic merit cows, in high rainfall areas, and for any circumstance which may further aggravate the problem of limited dry matter intake of grazed grass before the lactation is well advanced.

**Feed Budgeting Vital**

One of the absolutely essential components in the extended grazing system is the concept of feed budgeting. Just because the cow is out does not mean she is being fed adequately. We must think of cows at grass in terms of the amount of grass dry matter on the farm, the amount to allocate to the cow each day, her likely intake in her period(s) of grazing, the need for supplementary feed, the growth rate of grass in the period immediately ahead etc. We must ration the grass when it is in short supply and supplement it with the next cheapest feed available. We must have our feed budgets correct in the short term but also in the medium term.

A simple example of a feed budget at the University College Dublin herd at Lyons Estate is that we do not graze the silage ground and let out the cows day and night around the end of the first week of April in a normal year. If we were out much earlier we would be very short of grass in late April, while if we went out much later the grass would be very strong by the end of the first rotation and good grazing management would be very difficult. If we were to graze the silage ground we could be out day and night by St. Patricks day or perhaps a little later. If we were to ration the cows to around 7 kg. grass dry matter per day by restricted grazing we could be out in early March but we would have to restrict grass until early April in a normal-year and continue to feed silage during this period at early grass.

In other parts of the country the dates would be different. If we had a lot of early perennial ryegrass swards at Lyons we would also be out earlier. If we had a lot of late spring calving cows this would also change the timings. On an open day in December of last year on the farm of Padraig Walsh, who is one of the farmers pioneering the development of extended grazing etc., I was very impressed by how much thought he had put into his feed budget for the February to April period and how carefully it was planned. This requires a very good manager who is completely on top of the ideas involved. The expertise to carry out such planning is not widely available at present. Anyone who rushes into very early turnout without a carefully constructed feed budget will have a grassland fiasco on their hands in a short time.

Feed budgeting is vital at the start of the year but it is very useful at other times of the year also. It gives you a way of looking at grass supply and the feed
requirements of the cow and her grass intake which is very valuable. An aspect of feed budgeting which became glaringly obvious in the wet spring in 1994 is the need to have between one and two tonnes of silage per cow set aside as an insurance for unexpected growth or ground conditions. In my view feed budgeting is one of the most valuable ideas to come from New Zealand in the recent past.

Implications for Milk Yield

The emphasis on making maximum use of grazed grass with a reduction in the use of silage and keeping concentrates at very low levels will probably limit annual milk yields to around 1100 to 1200 gallons per cow. There are severe limitations on the dry matter intakes which can be achieved on grass alone, probably in the region of 17 kg per cow per day. The necessity to graze tightly in the early part of the grazing season in the interests of sward quality in mid season limits intake still further. The nature of grass as a feed itself and the dictates of good grazing management therefore make it likely that systems which rely very heavily on grass will, in all probability, limit milk yield per cow somewhat.

Even if milk yield per cow is limited by systems relying very heavily on grazed grass this does not worry me in terms of profitability of dairying. While quotas remain in place margin per gallon will probably be maximised for most people by low input systems with moderate milk yields (1100 to 1200 gallon per cow) even though high milk yields which are obtained with the very careful control of all inputs may be a little more profitable. If quotas were to end then high milk yield per cow systems would, of course, be much more profitable. Extended grazing and the associated management practises should not be rejected because it may limit somewhat milk yield per cow and even in high yielding herds aspects of the system can be used to increase overall profitability.

Controversial Issues/Unanswered Questions

There is a lot of controversy about certain aspects of extended grazing and unwarranted attacks have been made on farmers in the forefront of developing the new techniques. There is, however, a tendency towards dogmatism among some of the advocates of the system bordering on what might be called grassland fundamentalism. Claims about rates of grass growth are made which almost certainly are in error and cliches such as “grass grows more grass” are cited instead of recognising that we are short of definite information on which we can rely. It is quite wrong to make definitive recommendations for action to many thousands of dairy farmers on the basis of case studies that have not been, and probably cannot be, subjected to rigorous statistical evaluation which is essential if we are to avoid sending large numbers of farmers astray.

The farmers who have pioneered these developments have made a very valuable contribution to Irish dairying and they will undoubtedly continue to try out ideas and modify the system in ways which will stand the test of time. Innovation is, I think, at least as likely to come from the farmers who are at the coal face as it is to come from research organisations. Providing definite and reliable answers, however, will come from controlled experiments.
Important trial work is being carried out at Moorepark, Grange and Hillsborough on aspects of extended grazing etc. The effects of rotation length on grass growth in the second half of the grazing season and on milk yield and milk composition are under investigation. The relationships between the dates pastures are closed at the end of the grazing season and the start of grazing the next year are also being investigated. Work on heavy soils is underway. The effects on milk yield, milk composition, grass growth and sward composition and structure are being measured. Work on the response to extra nitrogen in the autumn and in early spring is required. Some of the apparent conflicts between the experience of farmers and research to date will undoubtedly be resolved. It will, however, take several years to provide answers to all the questions that will arise. We will have to cope with uncertainty for some time yet but it is much better to admit to some uncertainty than to substitute opinion for fact or to transfer trial results half way round the world to a situation which may differ in some important way which is not immediately apparent.

There is much work to be done and it would be very regrettable if conflict were to develop between researchers and farmers who are trying out exciting and innovative ideas to improve the profitability of dairying in Ireland.