



# THE MAN ON THE LAND

*This is a service page for farmers, written not to take the place of, but to draw special attention to, other and fuller sources of information. In particular, its purpose is to help farmers to get the fullest benefit from the broadcast talks prepared by the Department of Agriculture.*

## Take a Note of These Talks:

- 1YA: *Development of Gum Land, North Auckland.* By E. B. Glanville, Agricultural Instructor at Whangarei. Monday, July 17, at 7.40 p.m.
- 3YA: *Talk from the New Zealand Federation of Young Farmers' Clubs at 7.35, and the Sheep Survey at 7.50, on Thursday, July 20.* Research and the Farmer, from Department of Agriculture. Friday, July 21, 7.35 p.m.
- 4YA: *Erection of the Milking Shed, from Dairy Division. Monday, 7.30 p.m.; and at 7.40 a talk for farmers from the Department of Agriculture.*
- 4YZ: *Lime and Fertility, Some Recent Research in Southland (2), by W. R. Harris. Tuesday, July 18, 8 p.m.*

## Biological Motor Cars

Animals, as most farmers know, can not yet be built to order. The day is coming when they will be; but in the meantime even the geneticists admit that cows and sheep and pigs and horses as you like them are merely a biological dream. Here are some recent remarks from a broadcast to English farmers by A. D. Buchanan Smith, Lecturer in Animal Genetics at Edinburgh University:

"I am supposed to be talking here of the science of heredity. What part has it played in the production of our present flocks and herds? Quite frankly, it has played but a small part. You see, the art of animal breeding has been so long established, the breeders are so proficient in that art and the science is so young that we have never really got going. Doubtless many of you read recently of the English Shorthorn cow, Cherry, which is the first cow in the world to have given a yield of 4,000 gallons of milk in one year. She is the outstanding example of the art of breeding. But I feel that it is safe to say that any more substantial improvement will only take place with the application of the science of heredity. The dairy cow is the biological motor car. We can measure her performance just as we can measure the performance of Sir Malcolm Campbell's *Bluebird* or Captain Eyston's *Thunderbolt*—not quite so accurately, but it is still measureable; and as Lord Kelvin once said, 'measurement is the fundamental fact of science.' So just as you can study the engine of the *Thunderbolt*, so we are now studying the mechanism of milk secretion of the high-yielding dairy cow. And just as there is a delicate balance between the different components of the engine of the *Thunderbolt*, so is there between the various organs of Cherry. Each component of the engine of the dairy cow must be strong enough to do its job in relation to the other organs or components. But, whereas in the motor car you can accomplish this by substituting a different jet on the carburettor, or

something like that, in the dairy cow we can only get it by scientific selection, using all we know of the science of heredity to guide us in our work. Just as the *Thunderbolt* is a freak car, so is Cherry a freak cow. Both are masterpieces and good adver-



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tising for Great Britain. But what most motorists want is a robust, no-trouble family car which goes forty miles to the gallon; and similarly what most dairy farmers want is a robust type of reliability cow that gives the maximum amount of milk for the smallest consumption of food."

## For Orchardists

**Warning.**—A suggestion for commercial orchardists. If any new pruning systems are advocated try them out on a small scale by all means, but do not subject the whole of your orchard to drastic treatment under any new system without first proving that it is suitable to the particular varieties and conditions with which you are associated.

## To Harrow or Not to Harrow

*It depends, members of a Young Farmers' Club were told the other night, on the state to which outrageous fortune and their own management had reduced them. The speaker was Mr. F. J. S. Holden, of the Department of Agriculture, Palmerston North, and these were some of the points he made.*

Ten or fifteen years ago "soil aeration" and "penetration" were magic words. It was the grass-farmer's proud boast that he had "harrowed it black." But time has modified that attitude. Indiscriminate harrowing with heavy harrows is one of the worst examples of "outrageous management."

The chief result of the heavy harrows on many pastures is a splendid new crop of Californian thistle and ragwort, and in other districts of plantain, hawkweed, etc.

If the aim of harrowing is merely the spreading of animal manure that of course is a different story. To spread manure is not merely desirable but necessary, but it does not involve the use of heavy harrows. Nor does it involve heavy expense. There are many types of excellent and inexpensive light grass harrows for use behind a tractor which on flat land will spread manure at a cost of about 3d an acre.

Heavy harrows are certainly useful on night paddocks or house paddocks, where there are heavy deposits of stock manure and the sward has become sod-bound. They are also useful in places like North Auckland where *paspalum* is dominant in the dairy pastures.

Finally, heavy harrowing is good practice where it is necessary to rejuvenate pastures composed of poor strains of grass. The purpose in this case is to tear out the maximum quality of weed grasses like browns top, Yorkshire fog, and ribgrass, and at the same time lift up and spread some of the surface soil as a covering for the new seed that is to be added. But that is a different thing altogether from the indiscriminate use of the heavy harrow on any type of pasture and in any climate.

In brief, the case for harrowing is something like this:—

1. A light tripod and chains or even chains alone for spreading manure.
2. Heavy harrowing for sod-bound pastures and for the rejuvenation of worn-out pastures in conjunction with correct re-seeding.

As a regular farming operation severe harrowing is bad practice.