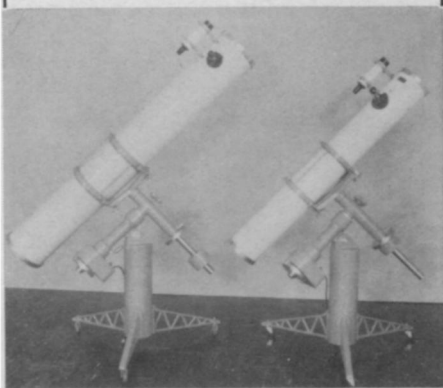


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LETTER FROM LONDON

The march of agriculture

Britain's largest industry shows way to increase production; capital needed

Agriculture is Britain's largest single industry. Its output is double that of the coal mines, one and a half times that of the automobile industry. Its receipts last year totalled almost £2,000 millions (\$4.8 billion), greater than those of steel and railways combined.

These facts were revealed at an international conference on the applications of electricity in agriculture, held at Silsoe, in Bedfordshire. The president of the Farmers Union, G. T. Williams, claimed that productivity in British agriculture had in recent years risen about three times faster than the national average. "In 30 years," he said, "we have progressed from producing a third of the food required for a population of 48 million to producing half the food required for a population of 55 million—and the technological revolution is not yet over."

Just what the technological revolution entails was explained by other delegates from universities and research establishments. Farmers have been forced to specialize by economic and social pressures; this has led to intensive mechanization (and in some cases automation), notably in the control of plant and animal environment and in the harvesting and conservation of crops.

At Reading University, 50 miles west of London, for example, intense effort is being devoted to light and its chemical effects on plants. The use of artificial light to lengthen or shorten the days is widely used in the laboratories there, and also at several other horticultural establishments, to persuade plants that winter is summer or autumn is spring, and so obtain fresh produce and blooms at any time of the year. The ultimate aim is to identify all the specific plant photoreceptive pigments and their various photochemical responses. This could be a long haul.

Artificial light is likewise being used in Britain as elsewhere to persuade battery hens to lay more eggs and to keep them laying for longer periods. Results show that illumination levels in the immediate vicinity of the birds should not fall below about five lumens.

By adjusting the diet of laying hens, and at the same time subjecting them to a "hot" phase in the diurnal cycle, egg production can be maintained while food intake is reduced by 20 percent.

In such practices, nutrient deficiencies must be carefully guarded against.

With sheep, the careful control of light and environment can bring equally rich rewards. Already the period between fertile times in breeding ewes has been reduced by eight weeks, simply by extending the length of the day early in the year. Farmers hope to be able to produce three crops of lambs in a two-year cycle. This should be a useful intermediate stage in the development of intensive sheep husbandry.

Specialization as applied to crops is a more straightforward matter, though the vagaries of the British weather have to be contended with. Throughout the country, the premier crop is grass—occupying three-quarters of the total acreage—while wheat, barley and oats are the main arable crops. The need with both types of crops is to save part of what is grown in eight months of the year for use in the other four. Advanced methods of storage that limit infestation and prevent rotting are available, and researchers are continually seeking better and cheaper alternatives.

What then of the agricultural future of Britain? The prospect of using computers to determine optimum sequences for the growing and marketing of crops is foreseen, as is the possibility of using plastic domes, covering 50 acres or more, to give controlled atmospheres.

It must be remembered, however, that British farmers, like their cousins elsewhere, are first and foremost business men. While they are "itching to expand," in the words of the president of the Farmers Union, they must ruthlessly set aside their dreams and look to their bank balances. Capital investment is the key to the future.

Larry Miller

Drug licensing

Manufacturers will be unable to put new drugs and medicines on the British market without a product license under the Medicines Bill published by the Minister of Health.

The bill will put into a statutory framework, with penalties in the case of offenses, voluntary arrangements broadly following those at present operated by the Committee on Safety of Drugs.