

FARM MACHINERY REPAYS CARE

THE use of farm machinery has increased enormously in New Zealand over the last few years, as is illustrated by an increase of 9301 farm tractors since 1939, bringing the total in use in 1946 to 18,940. As machinery has assumed such an important place in farming operations, it is necessary to keep it operating at maximum efficiency, and in this article C. J. Crosbie, Assistant Machinery Officer, Christchurch, covers aspects of maintenance that arise in the periodical checking over of implements.

FARM machinery must be cared for intelligently and kept in good repair if it is to give efficient service. A big factor in the life of an implement is care, which must be given in the long idle period as well as in the working period. Too frequently a machine receives liberal douchings of oil while it is working, but it is left to the mercy of the weather for the rest of the year.

Very few implements actually wear out. Many of them have only a few actual wearing parts, which can be easily replaced, while only in a limited number are there so many wearing parts that it is cheaper to buy a new machine rather than replace worn sections of the original. Proper maintenance includes protection from the weather by housing, regular lubrication, adjustment and replacement of parts, and prevention of rust and deterioration by painting and periodical tune-ups. The manufacturer's operating manual should be referred to for the necessary data in phases of this work.

Housing Machinery

Most New Zealand farms have at least one shed devoted wholly or partly to housing farm machinery, and more expensive machines and those incorporating wood in their make-up will generally be found under cover, because the heavy average rainfall and long hours of sunshine that most districts of New Zealand enjoy are destructive to woodwork of machinery left in the open. However, as the rusting of iron implements is as costly as the rotting of wooden ones, it is just as important to house an iron plough as a wooden hay sweep. A machine that stands out in the open for 11 months is not likely to function well in the twelfth.

Some farmers use stray macrocarpa trees as cover, but this practice is not recommended. Also some farmers may be influenced by a report from America that lack of housing did not greatly reduce the life of an implement, but the States covered by the report have not the fairly-heavy, salt-charged winds that New Zealand

experiences, and, further, repair costs of housed machines are lower.

Finally an implement shed should be used as such and not to shelter stray farm animals and fowls. Animal droppings contain nitrogen, and, in rotting, the nitrogen is formed into ammonia and then into nitric acid, which is the strongest acid known; examples of its intense corrosive action on steel and iron may be seen on any farm, and the point need not be stressed further.

Repairs and Adjustments

Not uncommonly implements are worked until they break down before they receive attention. In many cases breakdowns can be prevented by periodical inspections and by making any necessary adjustments; simple precautions such as running over a machine and tightening all bolts and set screws will save hours of delay which follow a breakdown.

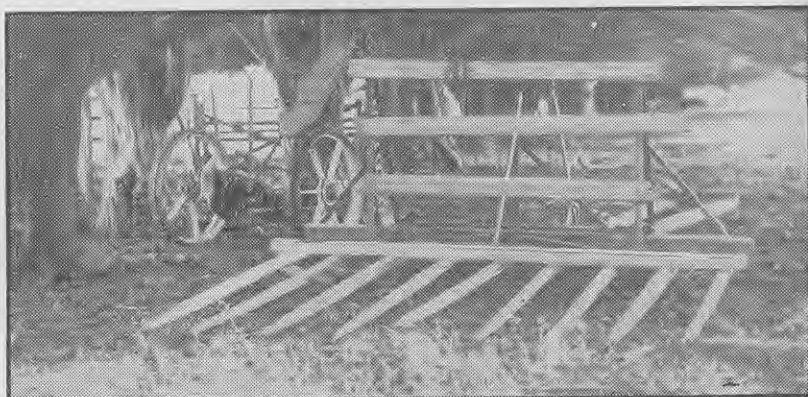
It is all too common to leave an implement where it is after the job in hand is finished, whereas housing it and giving it the proper attention will ensure its being in good order and ready when next required. A simple precaution that is well repaid in reduced depreciation and easier operation of the implement when next used is to coat the bright parts such as the mower fingers with waste oil or grease. The results of neglect after use are readily seen in topdressers, drills, and spraying machines, which may become un-

workable if corrosive chemicals are left in contact with the metal parts.

It is good practice to give machines a thorough overhaul during the winter when outside work is unpleasant. In this way worn and weak parts are located and either repaired or replaced so that when the busy season arrives the machinery is ready, and valuable time is not lost in making running repairs. Further, as the greatest demand on spare parts from machinery firms comes just before harvest, if repairs are put off till then, the part required may be temporarily out of stock. Also, the local blacksmith is inundated with requests to do repairs immediately before harvest, and often much of the work has to wait its turn before it can be completed. The wisdom of having this work done in the winter when the machines are not required and short delays do not matter is therefore apparent.

Running repairs and general overhauls are greatly facilitated by having a small workshop on the farm, and a number of farmers have made provision for this when erecting farm buildings. The workshop need not be pretentious, but should include a bench, a vice, and an efficient set of small tools. On larger farms it has been an advantage to include a forge and a few power-driven tools such as a grinder, bench drill, and buffing machine. A hoist or a pit is also a big help in major overhauls or repairs.

On some larger farms, now that most machines are mounted on pneumatic tyres, a small air compressor has been installed for pumping tyres. When the compressor plant is fitted with a spray-gun much time and labour may be saved in painting machinery and buildings. Compressed air may also be used with the forge,



Macrocarpa trees provide the only shelter for this tractor mower and tractor sweep since the last harvest.