

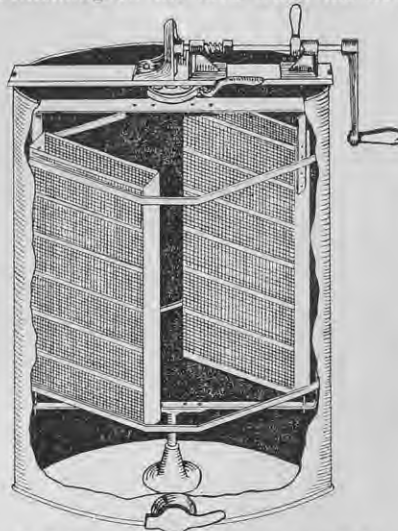
stained through the bees moving to and fro across them.

Should the season provide only a moderate yield of nectar, two supers of 28 sections each will generally provide sufficient space for other than exceptional colonies. If more sections than are absolutely necessary are given, the excess space will most likely result in the sections worked being poorly filled and only partially completed. To obtain heavy, well-filled sections it is essential that the bees at all times are provided with only the minimum space necessary to accommodate them.

The maintenance of this position throughout the period of the honey flow requires constant supervision of the bees and a very thorough understanding of the vagaries of the weather and the nectar sources in the locality. Should a very heavy nectar flow occur, many more sections than mentioned above may be needed. In this event the need for constant supervision is even greater, and the demand for room should be met by the removal of completed sections or combs and their replacement with foundation rather than by the addition of more supers. In comb honey production the aim should be to have as many as possible of the combs drawn out, filled, and completed.

When it is seen that the flow is diminishing, all undrawn foundation and any completed combs should be removed and the balance compacted

as much as possible. For example, if there are two supers of sections remaining on the hive when the flow



A 2-frame reversible extractor suitable for home use.

begins to taper off, the undrawn sections and those only partially drawn should be removed together with any that may be completed. One super filled with partially completed

sections is thus left on the hive. A good, vigorous colony will normally complete this amount before the flow ceases entirely.

Where more than one colony is being worked for comb honey it will often be found that one is showing a much greater tendency to complete sections than the others. Any surplus partially finished combs remaining after all colonies have been reduced to one honey super may be given to the most vigorous working colony, where they will be most likely to be completed.

If the production of comb honey is to be profitable, it is essential that the number of uncompleted combs left at the end of the season be held to a minimum. This desirable effect can be achieved only by maintaining a close watch on the progress of the nectar flow and at the first indications of slowing up reducing the number of sections to the bare minimum. Colonies left with too much storage space will build only partially filled or very thin combs which will have little or no commercial value. The success or failure of comb honey production is at all times in a very large measure dependent on colony management during the nectar flow and particularly on the beekeeper's understanding and knowledge of the conditions and plants governing the flow.



"General Survey of the Soils of North Island, New Zealand": Soil Bureau Bulletin (n.s.) 5

THIS survey of North Island soils was carried out during the Second World War by about eight officers of the Soil Bureau and almost completed within a year. This is a tremendous achievement which was possible only because during several earlier limited surveys of North Island soils the officers acquired knowledge which enabled them to map and classify soil units efficiently over the rest of the country. At the same time, however, the speed of the survey did not allow for great detail. Mr. N. H. Taylor, Director of the Soil Bureau, is careful to point out in the introduction that the soil units shown in the four miles to the inch map accompanying the bulletin are not soil types in the strict sense of the word but sets of closely related soils. Also small areas of other soil occurring within a soil unit are disregarded on the map and all boundaries are approximate. For this reason the maps are not a suitable guide for the farmer, because he wants to know small differences in soils occurring on his property and such differences cannot be picked up on the map. For the agricultural instructor and others with good knowledge of

the soils of their district, however, these maps are ideal.

The publication includes a chapter on the general classification and properties of New Zealand soils, a legend describing individual soil types in detail, and chemical tables offering a large amount of data.

The chapter on soils gives a lucid description of soil groups and explains their classifications with the aid of good illustrations. All soils derived from volcanic ash are simply arranged into units. Each unit is called a suite. Within each suite the individual soil sets are grouped according to maturity. For instance, the soils derived from the most recent shower of Taupo ash make up the Taupo suite, and within this suite soils are grouped as immature, semi-mature, and submature types; that is, according to their stage of development. On the other hand, the soils derived from sedimentary rock are, on the whole, grouped only according to the stage of development and not according to their parent material; that is, they are not placed into soil suites.

Following the general explanation of how New Zealand soils are classified is an "Extended Legend". This, to quote from the bulletin, "presents in tabular form a summary of selected data that have been correlated broadly with the soil units". In these tables a comprehensive picture of the soil is obtained. Two comparisons immediately attract attention. One is between present and possible future uses of the soil, the other between present and potential carrying capacity. The standards set for potential use and potential carrying capacity are as far as possible derived from what has already been done by the good farmer on each soil set. With some soil sets, however, the legend

has had to rely on an educated guess. For this reason the estimate of potential may be a little uneven, as pointed out by Mr. Taylor in the bulletin. One of the good things the bulletin has done, however, is to put these opinions into print so that they can be criticised, clarified, and amended if necessary.

Information is also provided on the pasture responses obtained by top-dressing and liming. Unfortunately these notes are, in part, out of date.

In a 25-page table presenting the chemical analyses of soil sets results are quoted from about 800 soil samples representing over 400 soils. Nearly every sample has been analysed for base exchange data, pH, total nitrogen, carbon/nitrogen ratio, and citric acid-soluble phosphate and potash. This information could have been gathered only by a tremendous amount of work. The tables are very interesting, but deserve a lengthy introduction and would perhaps be more easily accessible to some readers if a text were included explaining chemical features or chemical characteristics of each important group or suite of soils.

The eight main coloured maps covering the North Island at a scale of four miles to the inch are very good and the choice of colours is excellent.

A soil legend and maps classifying all soils of such a large area into a unified system by a rapid reconnaissance survey is a unique achievement, and its publication is of great value to all teachers and others who are professionally interested in agriculture and geography.

—C.D.
New Zealand Department of Scientific and Industrial Research. 16s. 3d. (maps additional).