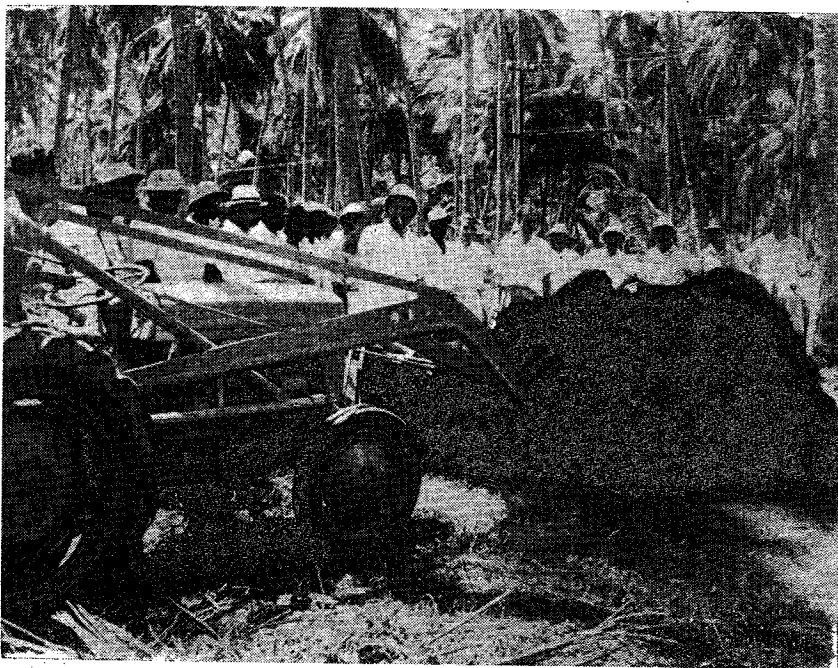


MECHANISED AGRICULTURE ON A COCONUT ESTATE

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THE Second Field Day, held on 24th November, 1951, and arranged under the auspices of the Chilaw-Negombo Planters' Association and by kind permission of Messrs. Baur & Co. of Colombo, was even better attended than the Field Day on Letchemy Estate. The purpose on this occasion was to study mechanical methods, applied to the management and cultivation of a



MECHANICAL MUCK-RAKE

coconut estate. A non-stop succession of demonstrations, using four tractors and a variety of attachments, were run through by an enthusiastic team of operators, working under the direction of the estate superintendent, Mr. Xavier Jobin.

To begin with, a tractor, with a winch fitted to it, was brought into action. With supreme ease, it quickly brought down a tall useless palm. The Superintendent explained the benefit of removing "dud" palms and low yielders, and then supplying the resulting vacancies with high-

grade selected seedlings. He pointed out that if no bad palms are present on an estate, the risk of "Mother" palms becoming cross pollinated from undesirable low-yielders is nearly eliminated. The yield of the estate is also raised to a high level and re-planting does not become necessary until the palms actually reach senility.

Broadcasting fertiliser down between the rows of palms was carried out mechanically as the next demonstration and after the spreading was completed, the manure was mechanically ploughed into the soil; thus manuring and cultivation were completed rapidly at the same time. Mr. Jobin showed the visitors by means of a hole cut in the centre of a square, the extensive spread of the root system of the coconut palms far away from their bases, and said that this was due to this method of application of manures.



EARTH SCOOP AND HUSK BURYING

Mr. Jobin stated that the overall yield of the estate was over 5,000 nuts per acre of palms in bearing, and said there was a belief that the palms on Palugaswewa Estate received more extensive manuring than is usual on other estates. He added that, even though the estate belongs to a manure firm, this was not the case; manuring he said, was carried out there exactly as recommended for other estates.

Where proper cultivation methods are adopted, Mr. Jobin continued, the palms respond wonderfully and good crops are the result. The main purpose of cultivating coconut land is to bring about "weathering" or breaking up of the soil components and to conserve water by improving the physical condition of the soil for the retention of rainfall and to reduce erosion by decreasing run-off. Effective soil aeration, he said, has a great influence on the root habit of the coconut palm and induces a deeper root formation.

The implement which he then demonstrated was the sub-soiler which is used to break up a hard pan, a condition often found in coconut soils. It worked down to a depth of nearly two feet and the curved "digger," while disturbing the sub-soil, did not bring it up to the surface.

It is also good agricultural practice, he continued, to break up the surface crust that is formed after rain on ploughed land. It was demonstrated how a mechanical tiller, operating over a previously ploughed area will break up the surface soil structure so forming a soil mulch, and at the same time uprooting weeds and other unwanted vegetation.

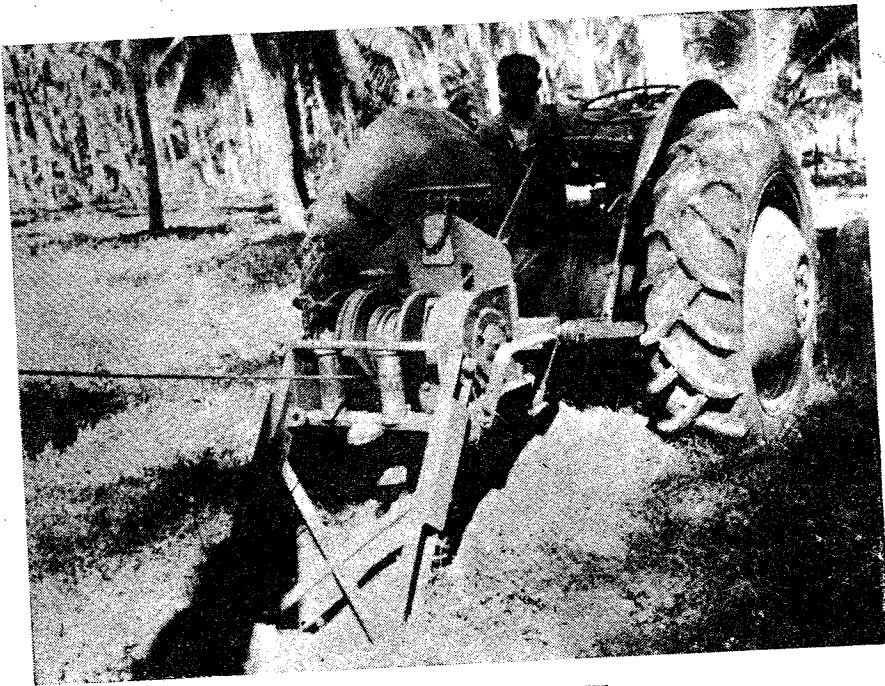


POST-HOLE BORER

Harrowing of weeds was also effectively done by means of a tractor-drawn serrated disc-tiller. The notched edges of the discs of this machine cut and then turned in a heavy weed growth more effectively than an ordinary smooth disc-harrow.

This was followed by a demonstration with a mechanical seed-drill, attached to a tractor. It sowed seeds of a green manure crop over a mechanically-ploughed area, which was subsequently harrowed with a tractor-drawn disc-harrow.

The planters present were much interested in the operation of the tractor-drawn earth scoop. This implement cuts into and lifts a quantity of soil, thus opening up a trench. This trench was filled with coconut husks, the tractor was then put into reverse and the earth in the scoop was dropped over the husks, so closing the husk-trench. By this means, husk trenches can be opened, filled and closed rapidly at a cost about $\frac{2}{3}$ rds less than with manual labour.



WINCH ATTACHMENT



SEED BOX ATTACHMENT

The mechanical post-hole borer, attached to and operated from a tractor, showed what a rapid and useful implement it is for opening holes for fence posts. It cuts a hole of about 2½ feet deep and 12 inches in diameter in less than a minute. The Director of the Coconut Research Institute suggested that it might be useful for opening up coconut planting holes and said that five holes dug close together could be filled with alternate layers of husks and earth and the seedling planted in the central hole. Similarly it could be used for returning husk to the soil without digging pits.

The final demonstration was the production of a form of compost produced from coir dust, weeds and estate litter using "Adco," a patent accelerator, to bring about the decomposition of



MECHANICAL SUB-SOILER

the intractable coir dust. There was no doubt from the great warmth, colour and condition of the heaps that this was occurring. A mechanical muck-rake was used to lift the finished material and carry it to where it was required.

The visitors were then conducted round many fields of the estate and shown the various methods of cultivation which are being carried out there, among them being the establishment of Green Manures-cum-Food crops such as Green Gram (muneta) and different varieties of Cow-peas which, as a manure crop, are ploughed into the soil at the flowering stage; a large climbing

bean, the "Velvet" bean (Wanduru me) also attracted much interest. The material selected for growing as green manure should not only contain a minimum of fibrous matter but should also produce an abundance of vegetative growth.

In a field of young palms, Mr. Jobin showed the adverse results of interplanting a catch crop of sweet potatoes. The growth of the palms was markedly inferior to that of those in an adjoining plot where no intercultivation had been done. In this plot, the visitors were able to see some of the young palms already bearing nuts at 4 years of age.

Underplanting of old palms was being carried out in one field of square-planted palms and it was interesting to note that this was being done on the equilateral triangular system with a spacing of $25' \times 25'$. This makes more effective use of the land by giving 80 palms to the acre as against 70 with square planting. Mr. Riggerback, the Assistant Superintendent, who is responsible for this work makes use of a theodolite to obtain exact alignment of the rows and equal spacing of the palms.

The estate has its own power house and workshops, good buildings and well-maintained roads. The production of edible white copra in large quantities particularly intrigued the visitors.

After the conclusion of the field demonstrations, the visitors were conveyed in tipping trailers, (normally used for the conveyance of coconuts, manures, and husks) to the Superintendent's bungalow where they were entertained to a sumptuous luncheon which was presided over with wonderful efficiency by Mrs. Jobin and Mrs. Fluckiger. A hearty vote of thanks was proposed by Mr. Shirley Corea and seconded by Mr. R. Spencer Schrader. This was replied to by Mr. C. R. Fluckiger on behalf of Messrs. A. Baur & Co.

There is no doubt that everyone enjoyed this most unusual demonstration of mechanised farming and the Chilaw-Negombo Planters' Association are to be congratulated on their enterprise in organising this series of Field Days for the interchange of knowledge between planters by the very effective method of practical demonstration.