

the permanent restoration of the bunds. The Government throws this duty on the ryots as Kudimaramat. But in cases where the cost even of a temporary ring-bund as frequently happens is substantial amounting to several hundreds of rupees or the Irrigation work concerned is a long canal serving several villages, the ryots have neither the resources nor the machinery to cope with such a situation. A costly ring-bund for a big breach does not come within the principle of the "petty stitch in time" enunciated by the Irrigation Commission. The commission has also recognised the difficulty of enforcing Kudimaramat in the case of channels serving more than one village. But in the absence of a satisfactory solution of the problem binding on both the Government and the ryot, every big flood brings in its train a crop of such controversies.

The most important and vital of the whole group of problems raised by Kudimaramat is the question of devising a suitable agency for performing its duties. There is no evidence so far that the Government has in the recent past ever addressed itself to this problem in spite of the recommendation of the Irrigation Commission. Kudimaramat obligation is a corporate duty placed on all the ayacutdars under an Irrigation Work. Unless a suitable machinery is created for doing the corporate work, it will be futile to expect that the obligation will be properly discharged. A small committee elected by the ayacutdars of a tank with necessary provisions for an efficient executive and control, supervision and guidance may perhaps be expected to shoulder this burden. The question of finance also has to be considered. The tank fishery will be an appropriate and sufficient source of income. It is now in the hands of Local Boards in some cases. In many others, the fisheries are in the hands of some leading ryots on behalf of the rest and there are numerous complaints of mismanagement and misappropriation of such fishery rents. In too many cases there has been civil and criminal litigation in respect of the fishery rent.

Thus, if Kudimaramat is to be revived as it must be in the interests of the ryots as well as the Government, (1) its scope has to be defined clearly, (2) a suitable agency has to be created for performing its functions and (3) the question of finance has to be settled.

* The editor does not hold himself responsible for the opinions expressed by the contributors.

IMPRESSION OF THE II YEAR TOUR

By H. RAMANATHA RAO, *Class II.*

A long educational tour is one of the many attractions of the II year, and we were looking forward eagerly to such a tour and lo! it started on the 4th of January. Visiting district after district, we were a happy party seeking knowledge from those "toilers of the soil"

whose vocation, if less dangerous, is certainly more noble than that of the "toilers of the sea".

At Nandyal, we meet at noon on the 4th of January. The evening is spent in going about the Farm, where the cholam ears brush across us, the giant grass forms an arch over the bunds and the spotted yellow cotton flowers are vivid on a back-ground of green. A little channel runs across the Farm, its babbling music floating through the air—the only water source for the Farm in the arid tract. The next morning we are busy in a groundnut factory.

And now in Panyam horticultural gardens, we are told of budding and grafting, and how man's creative brain decides the future of a fruit tree. An old gentleman with the wisdom of age and the fervour of youth thirsts for more knowledge; and from his vast experience he is writing a book. There is his rival, too, with a wise head on young shoulders, intensely practical none-the-less with an ideal, taking long strides towards the goal of all horticulturists. We do not miss Mahanandi—a visit to the nearby plantain garden,—and a dip in its sacred waters; a load is off our heads. They say it is our sins; but I maintain that it is the Nandyal dust.

The next day, bound for Guntur, we pass through magnificent scenery—steep ascents and hairpin bends, tunnels and viaducts, and a panoramic view of the country around from a height well above 3000ft. These give us a mysterious feeling, not unlike that of the first pioneer while far below in the valleys the villager perhaps wonders at the rumbling noise that this "strange monster" makes as it leaps from crag to crag. Soon the shadows lengthen, the valleys are cast in gloom while the dying rays yet shine on the hill tops somewhere hidden by the curve of a hill.

A "lowing herd" is climbing down its sides, a little cloud of dust close in its wake. The darkness sets in; sombre-looking hills, deep ravines clothed in inky darkness under a canopy of spangled heavens move us to ecstasy while the crescent moon shimmers on the dew-besprinkled foliage. Here is paradise to forget oneself in, but the eternal "chug chug" and a shrill hoot bring us back to realities, and we are in Guntur.

Here in Lam Farm, a lot of chillies and tobacco, one for the masses and the other for the classes; but an impartial insect world with sympathy for none devastates both to the chagrin of man.

Next we are in the *Metropolis*. Here in the heart of the city, the mind leaps back to those Nallamalais and yearns for solitude, for, *Strangely enough there is society in that solitude.*

The next day we move southwards. The Metropolitan skyline slowly merges in the horizon and once again we see rural India. Time

and again little streams are crossed. Paddy fields stretch as far as the eye can see and the tiller of the soil stands in the field and gives a broad smile at the running train.

" For him light labour spreads her wholesome store, just gives what life requires and nothing more "

We alight at Tindivanam and at the Government Farm learn about Oil seeds. The staff is kindness itself and stands us a 'Tea'. In a beautiful little outhouse, we do justice to it, while the lengthening shadow of a picota plays on its walls, producing a delightful effect of light and shade.

The sugar factory at Nellikuppam, Palur Farm, and then to Aduturai. The Coleroon is passed and with it, many other streams. We traverse the great Cauvery Delta, the streams run majestically over plains miles and miles long. Over this land watered by the sacred Cauvery we travel to historical Trichy. Here is evidence of the " Glory that was Ind ". We hurry to the Grand Anicut where the Cauvery in spite of her unique self-sacrifice is made to give her last drop of water.

Next we are at Dindigul. A visit to the Sirumalais—4½ miles of precipitous path and after this, what a scene is unfolded; The coffee bushes cover the hill sides; their crimson berries form a pleasing contrast to the almost promiscuous splashing of green everywhere. From the highest summit we look around; again those Nallamalais leap back to our memories. Below in the plains little fires are seen in the dark, their smoke slowly curling upwards. The wind howls among the trees. We climb down to our resting place and have a hearty meal, and the rest is forgotten in sleep.

We arrive in Udumalpet and start about our work. We have by this time enough material for a symposium on the crops that we see. Soon we are homeward bound. " Alas! the train is exceedingly slow " For a fortnight we have been 'nomads' and now to the routine of College work.

Our thanks are due to Messrs. K. Raghavachari, P. N. Krishna Iyer and E. K. Nambiar, who were our guides during the tour and bore with us with no little sympathy and tolerance during the fortnight.

ABSTRACTS

Field experiments with vernalised wheat. (*U. S. Department of Agriculture, Circular No. 325, September 1934.*) The circular reports about the experiments conducted by U. S. Dept of Agriculture, Washington, to find out the commercial possibility of vernalising certain standard varieties of winter and spring wheats. The principles of vernalising are similar to that followed by the Russian workers by chilling for different period of days, the pre-germinated seed, though it was felt that more than average skill was required to prevent excessive moulding and

sprouting. The commercial possibilities were also restricted as the cost of the treatment would increase considerably by the use of cold storage rooms and mechanical refrigerators. The results did not indicate any significant modification of the time of heading by such vernalisation. As regards yield, it has been found doubtful if yields of vernalised spring wheats would be increased to such a degree to attract the farmers, considering the technical process of vernalisation, though the Russian workers recommended the commercial use of the method on the ground that vernalised winter wheat outyielded spring wheats and that the Durum yield better when vernalised. It has a limited scope for certain winter areas, where vernalised winter wheat may be grown with advantage for late winter and very early spring sowing, when the autumn sowing has been prevented by excessive rainfall or drought, as the winter wheats tolerate low temperature during the initial stages better than spring wheats. Nowhere else except in Russia, vernalisation seems to have been useful from the preliminary reports published so far. The imperial Bureau of Plant Genetics, Cambridge will be issuing a second bulletin shortly which will review further advances made since the publication of Lyssenkos' work. N. P.

Investigation into the causes of breakage in milling paddy. The subject of breakage was investigated with special reference to the degree of maturity at harvest, climatic conditions immediately before and after harvest, method of drying the sheaves in the field, threshing and storing the grain, and the protection of the produce from heavy dew at night and from intense sun's rays during day, while at the threshing floor.

Alternate exposure to dew and sunlight increases sun-cracks on the grain, contributing to a higher percentage of broken grains in the milled product. Sun cracks develop even in the field if the crop is over ripe before it is harvested. Shade drying minimises breakage. (*Annual Report of the Rice Research Officer, Burma—1933-34*). S. R. S.

Gleanings.

Eradication of Khaki Weed (*Alternanthera repens*). In small areas Khaki Weed is best destroyed by hand-grubbing or chipping, but as it has the power of sending out roots from the joints, there is always the chance, unless the work is carried out in hot, dry weather, of the cut pieces growing again, so that the cut up plants should be raked up and burnt. In 1918 an officer of the Department of Agriculture and Stock, Mr. F. B. Smith, B. Sc., Assistant Agricultural Chemist, visited Beaudesert to inquire into the destruction of Khaki Weed by chemical means, and reported that the weed was easily destroyed by common salt (butcher's salt, or any coarse, common waste salt) at the rate of 1—2 tons per acre. A weak arsenical solution containing 0.2 per cent. arsenic will also be found effective where the poisonous spray could be used. The value of salt as a weed destroyer lies in its property of absorbing moisture both from the soil and plant tissues, and so kills the plant by thirst; thus to prove effective, it should be applied in hot, dry weather. (*Queensland Agricultural Journal* Vol. XLII—1934).

Preparation of Coal Tar-kerosene Emulsion as a Protection Against Certain Insects (Field Ants and White Ants.) The formula, as given by Uichanco, is as follows:

Stock Solution.

Laundry soap	500 grams.
Coal tar, or "alquitran" (without creosote)	5 litres.
Kerosene	3 litres.
Water	4 litres.