

tion of leases could be taken up and alternative standard lease agreements worked out as a result of the experience of union members whether both public or private. Another suggestion is that the union might pay the expenses of members sent to other parts of India or even abroad, to study special problems. A student interested in sugarcane might for instance be sent to Java, and a part or whole of his expenses paid.

The welfare of the students in residence at the college might be increased by spending money on the tennis courts or on the coming library and reading rooms. The equipment of the library has yet to be taken up and will be a serious drain on the funds of the student's club. The above are a few vague hints which are not intended to be in any way final and which may for all that is known have already been discussed by the members of the union. The point is that the union must do something and do it soon. It cannot continue accumulating funds without showing that it knows what to do with them. It is no excuse to say that reserve fund is necessary because it is not. The reserve of the union lies in the good opinion of its members and friends and that will only be gained by a full programme of honest and useful work. It is better to spend too fast than too slow and if such expenditure is obviously devoted to good objects the union can if necessary appeal for extra subscriptions, on the ground that it has earned it by "something attempted, something done."

"HUSTLE."

Better preservation of cattle manure on the West Coast.

That urine of animals is of very considerable value is a fact not universally known. Urine contains large quantities of valuable plant food. It is unfortunate that liquid manure is so liable to run to waste either by evaporation, by drainage or by

washing with rain water. The serious mistake therefore in the existing system of collecting cattle manure in Malabar is the total neglect of the liquid portion. Urine is generally considered more of a nuisance than a useful commodity and every endeavour is made to drain it away from the cattle-shed instead of preserving it as carefully as possible. Then manure inside a cattle-shed has the tendency to become offensive to cattle, it is frequently taken outside to a pit behind the shed and the whole of it is exposed to heavy rains and to the hot sun. Ryots are fully aware that their manure thus neglected is devoid of a considerable amount of its *Karum* or strength, and yet they make no effort to mend matters.

On the other hand in South Canara from time immemorial, the ryots have been used to collect cattle-manure in a much better way and that is by providing bedding for their cattle. They make it a point to take some fresh litter daily into the shed. After some time—3 to 6 weeks—they remove the accumulated mixture now composed of the voids of the cattle and the litter added, which they make into a proper heap outside the shed.

The best way of preserving cattle-manure is to make the cattle stall 2 or 3 feet deep and to spread some litter as bedding every day so as to mix with the dung and absorb the urine voided. Green leaf, dried leaf, neglected or useless straw, dried weeds, paddy chaff, or any refused organic matter might be used for this purpose. If, however, none of the above are available, then dry earth should be used as bedding. The above mentioned materials when added, absorb and ensure the preservation of the urine. Treading by the cattle makes the whole thing compact. The stuff thus obtained may, if necessary, be carried straight away to the fields whenever required. For several reasons, the the bulky manure, though a little more expensive to cart to fields, is of considerably greater value than small quantities of

pure cow dung, particularly so in Malabar where a heavy rainfall is obtained. The bulky manure thus procured in the cattle-sheds, apart from the manurial ingredients it contains, brings about an improvement in the physical condition of the soil which is most beneficial to the crops grown thereon. This applies to practically all kinds of soils and of crops.

After the burst of the South-West Monsoon the Malabar ryots even if they have the will and the means to apply green leaf as a manure to their land have no time or labour to attend to such work. They will then be hurrying on with the transplantation of paddy and the heavy rains and consequent floods interfere to no small extent with the ordinary work. But if according to the above system 2 or 3 bundles of leaves are taken to the cattle shed every day, quite an appreciable quantity of manure will be available at hand within their own cattle-sheds, and the expenditure thus involved is very small indeed compared to the high price which has to be paid for green manure to be applied direct to the land. On the Taliparamba Agricultural Station it has been possible to obtain as much as 12 cart loads of manure in one year from a byre holding only one pair of animals, where as the Malabar ryots do not get even 2 cart loads out of a pair of cattle.

There is a prevalent idea amongst many ryots that it is injurious for cattle to stand continually on the manure accumulated in the byres. This is quite an erroneous idea. On the Taliparamba farm this same practice has been in vogue for the last 9 years and the cattle have had no complaint on this score. But care is taken to put in some bedding or other ever day. In February, March when the manure has a tendency to become heated a pot of water is now and then scattered over the litter, but rain water is never allowed to get into the shed. The manure is only carted from the shed once a year, which means that the cattle remain day and night throughout the year on the accumulated stuff. It

is strongly recommended to every man who keeps cattle and uses their excreta for manuring his land that the above system of collecting manure may be adopted in the place of the wasteful one now in vogue.

If it is not possible to keep the manure such a length of time in the sheds, then as a first step it may be periodically removed (about once a month) to a pit dug in the ground close to the shed. It is important that this pit should be properly roofed so that rain water will be prevented from washing away the valuable manurial ingredients. The manure thus collected will be of superior quality and at the same time a greater quantity than that commonly obtained by the present wasteful system.

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Notes.

Manure Society in Tanjore District:—Our readers will remember that one of our Saidapet diplomates, Rai Sahib, A Seturama Aiyer, read a paper at the Agricultural Conference, 1915, on the possibility of putting up machinery on a small scale for crushing bones and phosphatic nodules for use as manure on the soils of Tanjore which, as the Soil Survey of the District indicates, are generally deficient in phosphoric acid. We are glad to hear that Mr. Seturama Aiyer erected a disintegrater to be worked by his 9 H. P. Oil engine already existing in his garden at Needamangalam and also constructed a store room at a cost of Rs. 1500.

An application has been submitted by several prominent Mirasidars of the District, himself being one of the signatories, to the Registrar for registering a Co-operative Manure Society which will undertake to purchase, crush, mix and sell manures, primarily to members. Apart from the usual distribution of