

We have received copies of the Madras Agricultural Calendar for 1919-20, (April 1919 to March 1920) and the Mysore calendar for 1919 (January to December). Both are illustrated and contain valuable reading matter and they are priced one anna each.

The Madras one is a rather bulky volume running to 110 pages while the latter runs to 54 pages. The Mysore wrapper figures a Mysore cooly woman with a sheaf of Ragi and is certainly more poetic than the map of farms which adorns the wrapper of the Madras contemporary. It is now widely accepted that the calendar is a very useful adjunct in Agricultural propaganda work and we know that the Madras Department practically took the lead in the matter.

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### **The mind of a Farmer or Ryot and its bearing on Agricultural Improvements.**

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Some time ago I noted in a publication that an enquiry had been made to see whether any correct idea of the mind of a farmer could be ascertained by enquiry.

The writer's conclusions were astounding, and read as follows—  
“That the mind of a farmer could not be conceived and is inconceivable.”

Without dwelling on the methods which were employed in the enquiry, as of these I have only a hazy recollection, I think that the subject might profitably be reviewed in a general way as it appeals to me.

There is no doubt that, whether to the citizens of Madras, London, New York, Edinburgh, or Paris, the farmers in their

respective countries are comparatively little understood by the average city man. The farming profession generally is followed by what may be termed an agricultural class who, from the nature of things, have little in common with the city dweller. On meeting a city man, casually, a farmer will always tell (and *vice versa* in some other way) even if there is nothing in the appearance to betray the secret, whether his friend is a farmer or not by the way he looks at a plough, cultivation, or stock, or by the first remark made about these. It frequently happens that when some enquiries are being made regarding agricultural matters, the investigators, in their attempt to talk in such a way as to please the farmers and get information, trot out many sayings that are ridiculous in the extreme from the farmer's point of view. In the case of people following the same profession for many generations, there passes from one generation to another certain manners and customs, a knowledge of the arts of agriculture by tradition, many so called superstitions etc. etc. which are little known or understood by others, and thus certain characters are associated with the agricultural classes in all parts of the world.

In the first place, consider the meaning of certain expressions used in the country with reference to their literal meaning. Take for example in connection with Clydesdale horses in Scotland, the remark, "This horse has feet but no legs" which means that the feet are good, and the legs bad from all points of view. Again with reference to Ayrshire cattle "This is not a bad cow" which means that from every point of view the animal is a very excellent one indeed. Now the point of special interest is that amongst the ryots such sayings as the above have a counterpart. A ryot will say that a certain buffalo is a "Milk buffalo," and that another "is not a milk buffalo" although both are giving milk. The former expression means that not only is the buffalo giving milk but also that she is a good milker, while the second refers to a buffalo that gives very little milk. However the above could be multiplied almost indefinitely, and when these are applied to things in the various ways, it is after all not surprising that the writer referred to above came

to the conclusion that he did. It will be evident that a knowledge of the meaning of phrases is most important, and also that those without agricultural traditions working amongst the agricultural classes must beware of the many pitfalls into which they may unwittingly drop. Again, take the so called superstitions amongst the farmers in some parts of Scotland, exactly the same sayings are found amongst the ryots here. How these sayings and superstitions have come into being have their interest in the past and need not be pursued further.

Farmers are generally considered to have a very conservative type of mind, and this is quite true. A friend of mine writing from Africa lately said "The farmers here are even more conservative than the farmers at Home, and that is saying a good deal." But could this be otherwise when all is considered, indeed in my opinion it will always be so. Consider for a moment how the present agricultural practices all over the old countries of the world have come into being. For example tradition has handed down for thousands of years the essential things in paddy cultivation, leaving behind all the errors of former times, thus now only the counsels of perfection pass from one generation to another. In this way the ideas of ryots are exact, and therefore anything containing "If" "Perhaps" "Possibility" etc. in connection with advice is looked on with suspicion. Further, farming practice is connected with unforeseen circumstances. When preparing the land, no one can tell whether the season will be good or bad etc. etc. thus the position of the farmer is more precarious than that of almost any other profession. Seeing that a farmer is dealing all along with uncertainties, it follows that successful farming practice should be on the lines that makes crops as sure as possible. To obtain fair returns every year is the object of every progressive farmer, and therefore there is little desire to depart from the practices that have hitherto proved profitable and successful in this precarious calling.

Now, I think that these notes have a very direct bearing on agricultural improvement in connection with which there is much good

and useful work still to be done. It is just as well to take it for granted that the type of farmer-mind to be dealt with will not be changed by the stroke of a pen, and that it will remain a factor in the situation. Just consider for a moment that some new variety of grain has been introduced and tested in the districts during a favourable season with good results. How would this impress the mind of a ryot? He would say "What about a bad season". Suppose that under persuasion of some enthusiast he sowed one field or a part of a field with the seed, the season a bad one, the crop failed, while other similar varieties of local grains produced fair crops. Just think with what such advice is compared. It is compared with the knowledge of tradition in connection with crops which on the whole is sound, and has stood the test of ages. The effect of this will be, especially on a conservative minded people, to make them still more conservative, as faulty advice is very slowly forgotten. Such things put back the clock, and also bars the path to further progress. Of similar happenings to the above I could quote many examples from other countries, and I dare say that those who have been long enough connected with agriculture in India could quote similarly.

Improvements cannot be made without mistakes, but the mistakes should first be made before the matter is put to the ryot, also the more conservative minded the ryot, the greater the care that must be taken to see that only sound recommendations are made. While the conservative type of mind at times has disadvantages, still it is not without its advantages. A sound recommendation when it finds its way into agricultural practice will be tenaciously followed and will soon spread all over the country due to one ryot recommending it to another. The prestige of the party who made the recommendation will be very greatly enhanced, and his advice will be sought after in the future. This brings into being the ideal state of things, namely that the ryots of their own accord will come and ask for advice. Wrong recommendations of course have a contrary effect.

When one ryot is discussing agricultural matters with another, each is up against a man who thoroughly believes in what he says,

and in such cases there is fixed conviction behind the arguments used. If a demonstrator goes to a village to recommend any particular practice which he himself has not studied in detail sufficiently to convince his own mind that the thing is correct and sound, such a one will never convince a ryot to adopt a recommendation, although the recommendation may be perfectly sound. The reason is that there is an absence of fixed conviction behind the recommendation, and the ryot is very quick to detect this state of affairs.

The history of agricultural improvement all over the world shows that it has been slow, and from the nature of things I am of opinion that this also will apply to countries that are rather backward at present. Before anything finds an established place in agricultural practice it has first to be thoroughly tested before being recommended, then after introduction it has to stand a further test under ordinary conditions, and so far as successful or otherwise adoption or rejection will be decided.

When all is said there is no farmer in the world who does not welcome anything that will make his agriculture more profitable. Agriculturists carry on their farming for profit, and therefore anything that is not either directly or indirectly profitable will never find its way into progressive farming.

Farmers distinguish clearly between things that are "New" and things that are "Improvements." Many things that are put forward as "New" in connection with agriculture in Western countries are not improvements, and also many things that are improvements are not new, but resurrected from the past. The refusal to adopt many of these so called "New" things has to a large extent been responsible for the general opinion that the farmer is conservative-minded. If the conservative type of mind has not at times moved quick enough, it has frequently saved farming from disaster by refusal to adopt many so called "New" things. While even real economic improvements may find their way rather slowly

into agricultural practice, it is only fair to the farmer to say that eventually such items always find an honoured place.

Be sure of what you recommend,  
That towards advancement it doth tend,  
The ryots' lot will thus improve,  
And from the groove he'll move! move! move!

A. Carruth.

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### **Borehole yields.** (*Continued*).

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*Methods by which subterranean supplies of water may be made more available :—*

The water-bearing strata of the earth's crust may be broadly divided into three classes.—

(1) Hard metamorphic rocks with fissures and cracks in them. (2) Stratified beds of rocks of varying degrees of porosity (3) massive or stratified deposits of sand or gravel. The conditions of yield from the bores sunk into these strata vary with their nature and consequently the methods by means of which the yields may be augmented will differ accordingly.

1. *Supply from fissures and cracks.* Here there is no question of percolation at all. The flow from the bore depends primarily upon the main source of supply from which water rises into the crack and secondly on the size of the crack. In many cases we have no control on the principal source of supply. As the flow of water through the fissure depends upon the size of the latter, we may increase the flow of water through this fissure by enlarging it and there is only one feasible method for enlarging a tortuous fissure occurring in the body of a rock. The method is known as "torpedoing" and consists in blasting the rock at the