

One is likely to ask whether a ryot could afford to give a liberal ration to cattle. If he wishes to get the best out of his animal, it would be far better for him to keep a less number and look after them properly and sell out the surplus than keep an unnecessarily large number of mediocre animals and underfeed them. At present there are far too many useless cattle in the country. It is a greater sin to starve the animals than to kill those that the ryot cannot possibly feed satisfactorily, as he has to conserve fodder for his animals for the dry period when no proper grazing is available.

A PRELIMINARY NOTE ON THE EFFECT OF HAND DIBBLING ON SOME OF THE CHARACTERS IN COTTON

BY C. VIJAYARAGHAVAN, L. Ag.,

Superintendent, Dry Farming Station, Hagari
and

N. KESAVA IYENGAR, M. A.,

Assistant in Cotton, Agricultural Research Station, Hagari.

The common practice of sowing cotton in breeding plots is to dibble the seeds by hand. This system is preferred to drilling since the quantities of seed material handled are small and the number of units to be sown is very large. In the course of sowing trials conducted on the black soils of the Hagari Agricultural Research Station, differences have been noticed from the very beginning in the mulch of the plots dibbled by the hand and of those sown with a drill. Drill sown plots have an advantage over those sown by dibbling in that the seeds lie uniformly deep in the furrows formed by the drill. The furrows are covered immediately by working a blade harrow and the soil is compacted over the seed leaving a fine mulch on the top. The effect of this harrowing lasts for a long time. In the dibbled plots on the other hand it is not possible to lodge the seed at a uniform depth. Further as no harrow is passed, the top soil gets dry and hard, and starts cracking earlier leading to depletion of soil moisture sooner.

In order to test whether the two methods of sowing affect any of the characters of cotton, observations were made during the season 1934-35 on a pure strain of *herbaceum* (Hagari 1) grown at this station. The two treatments were replicated four times on plots of two cents each.

The characters studied were (1) position of the first fruiting branch, (2) yield of seed cotton per plot, (3) lint weight per seed, (4) weight per seed, (5) ginning percentage and (6) lint length. Samples for the examination of lint and seed weights were collected from 3 locked bolls of weekly pickings and seeds from all the positions of

the lock were taken to form the sample. Only seeds from the third position of the lock were used for the determination of lint length. The results of the studies of the several characters are given in the table.

Table I.

Blocks.	I		II		III		IV		V		VI	
	1st Fruiting Branch		Yield of seed-cotton per plot (lb.)		Lint weight per seed (mgs.)		Weight per seed (mgs.)		Ginning percentage.		Lint length (m. ms.)	
	Hand sown	Drill sown	Hand sown	Drill sown	Hand sown	Drill sown	Hand sown	Drill sown	Hand sown	Drill sown	Hand sown	Drill sown
1. ...	6.9	7.1	1.48	2.22	21.8	23.2	56.2	58.4	27.8	28.4	25.7	26.7
2. ...	7.1	7.5	1.95	2.91	22.0	23.0	55.2	56.4	28.4	29.4	25.2	25.1
3. ...	7.3	7.6	2.39	3.28	21.6	23.8	57.0	58.4	27.6	29.0	25.1	26.4
4. ...	7.2	7.7	2.28	3.75	22.8	24.4	58.6	59.6	28.0	29.4	26.1	26.2
Mean.	7.1	7.5	2.03	3.04	22.1	23.6	56.8	58.2	28.0	29.1	25.5	26.1
t value*	5.0		5.1		5.2		5.0		5.8		2.0	

Yield in pounds of seed cotton per acre=224 365

Percentage of increase over the hand sown=33

* t value for P=.05 and n=3 as per Fisher's table=3.182.

N. B.—Differences are significant in characters I to V but not significant in lint length (VI).

The following conclusions are evident from the table:—

1. The first fruiting branch arises earlier in the hand sown plots. It indicates that the reproductive phase is initiated earlier, possibly due to lack of moisture in the hand dibbled plots.
2. Hand sowing depresses the yield by 33%.
3. Lint and seed weights are also lowered in the dibbled plots.
4. The ginning percentage is reduced indicating thereby that the rate of fall in lint weight is greater than in the case of seed weight in the hand sown plots.
5. Lint length is not affected.

Further studies are necessary before any explanation can be offered for the above behaviour.

THE FINAL YEAR STUDENTS' TOUR

BY A. V. PITCHUMANI, Class III.

The eagerly expected fortnight's tour of the Final year B. Sc. Agr., students commenced on the 1st of October. We were a jolly batch of twentyfive and we met at Ongole in the early hours of the 1st October. This tour was intended mainly for the study of cattle breeding with special reference to the Ongole and Alambadi tracts. During our two days' stay at Ongole we visited the neighbouring villages of

Karavadi and Tangaturu—two important cattle centres in the Ongole tract. Our stay at Ongole was very happy and useful. While leaving that place we carried with us vivid memories of the excellent cattle reared by almost all classes of ryots, of the majestic Brahmini bulls which are so common in all the Ongole villages, of the well preserved pastures—indeed of all those things which the Ongole ryot so intelligently and carefully does as to maintain a fine breed of cattle. Our class played volley-ball and tennis matches with the Ongole Mission High School and won both of them creditably.

Our next visit was to Narasaraopet which we reached on the 3rd morning. The same evening we visited a neighbouring village where we made enquiries regarding the local agricultural practices of the tract. The next day we paid a visit to Chilakaloorpet—a flourishing village of agricultural importance—where we studied the methods of citrus and guava cultivation. On the 5th we had a very pleasant and instructive trip to the Guttikonda forests, thirtyfive miles from Narasaraopet. There we saw the forest tribe, the Lambadis, whose chief occupation is cattle rearing. Hundreds of cattle, generally of poor type, from the neighbouring taluks are brought to be left here under the charge of the Lambadis in June-July. These cattle are taken back by their owners usually before "Pongal" in January. Before leaving these forest grazing areas or *pentas* as they are called, we were entertained to a nice dance by these Lambadis.

On the 6th we left for Nandyal. The journey especially through the Nellamala forests was exceedingly pleasant and we were enthralled by the sublime scenery which Dame Nature has showered upon those regions. Undulating forests, deep valleys, fearful tunnels and screaming streams, all these captured our imagination. On arrival at Nandyal, we went round the Agricultural Research Station, where we were shown and explained the various experiments and the selection work carried out in the Farm on the dry crops of the Ceded Districts. The next day we visited Panyam, a neighbouring village noted for its fruit cultivation. Here we saw the gardens and nurseries of Messrs R. V. Madhava Rao Bros. and got first-hand information regarding citrus and mango cultivation, budding grafting topworking. Mr. Hanumantha Rao the joint owner of those gardens explained to us the various details very clearly, and also arranged a nice exhibition of the various specimens and varieties of fruits grown by him. After a delightful evening party and group photo arranged by him in his beautiful gardens we returned to Nandyal. We reached Bangalore on the 8th October. Thanks to the untiring efforts of Mr. Vasudeva Rao, veterinary surgeon, Hebbal, who was deputed by the Government of Mysore to look after our comforts, our stay at Bangalore proved most instructive and enjoyable. We visited Hebbal next morning.

Dr. Badami, the Economic Botanist of Mysore and his assistants provided a fund of knowledge to the students. We were impressed with the amount of work turned out here, especially in livestock and plant breeding sections. To Dr. Badami in whom we saw a rare combination of an enthusiastic scientist and a pleasant conversationist, we were sorry to bid goodbye after an entertaining tea. In the evening we visited the Imperial Dairy Institute where the officers and staff were kind enough to take us round and explain the various operations in the Institute. When we were leaving this model dairy our little voices began to question, "When will our India see such dairies on an extensive scale?"—That cleanliness, those students in tiptop clean overhauls looking just like blooming nurses, all left echoing impressions in our mind. Our stay at Bangalore was happy throughout.

Our next place of halt was the Hosur Livestock Research station. While nearing Hosur we could hear the rumblings, "They play cricket and speak English", I mean the farm coolies. Our expectations were materialised the next day when a Bangalore cricket team visited Hosur and Lieut. Murari, the Deputy Director of Livestock turned out with a strong team and routed the visitors. We were none the less responsible for the success (in as much as we lent the services of two of our colleagues.) Hosur is about 3000 ft. above sea-level. With a salubrious climate and rolling pastures, it is an ideal place for a holiday resort for a pick-me-up. At the farm we had a look at the Dairy and the Livestock section and were much impressed especially with "poultry keeping and pig rearing". We also visited the Government Sericultural seed farm run for the benefit of the Kollegal silk industry.

After we left Hosur, our tour during the next few days was so speedy and so full of adventures that we little realised that it was coming to a close until we reached Coimbatore. Karandahalli, Dharmapure, Pennagaram and Kaveri were successively visited and we remember vividly the sturdy herd of Alambadi animals and our dip in the Cauvery falls. It was an exquisite pleasure for all of us to have had a wonderful bath in the sacred waters of the great Cauvery. It was a wonderful sight to see the ever green steep valleys as the buses groaned along the metallised ribbon to the falls. One may be tempted to question what impressions we carry of the tour. It is difficult to give a definite answer. No doubt we can differentiate between an Ongole, an Amrithamahall, a Kangayam and an Alambadi. "Is this all"? one may ask. No. Every thing is there in the subconscious mind, so vivid as to be at the beck and call of our conscious mind. The characteristic agriculture of Nandyal, Ongole, of the Mysore plateau and the hills, their soils, their people and their manners and customs, they jump up vividly and quickly. We went, we saw and we returned more experienced and better informed than before.

We students, scarcely realise the debt of kindness of filial love shown by the various officers and others who were responsible for our well being, which still remains unredeemed when we thank them heartily. Our sincere thanks are especially due to Messrs E. K. Nambiar and P. A. Venkateswara Iyer who were in charge of us throughout the tour and who showed a remarkable degree of patience and forbearance towards us and made this tour of ours a great success. Once again we thank all those officers and others who were of great help to us during the tour and were mainly responsible for the success of this instructive and enjoyable tour.

RETIREMENT.

During the last month, two of the senior members of the Madras Agricultural Students' Union, Rao Bahadur S. Sundararaman and Rao Saheb C. Narayana Iyer retired from Government service.

Rao Bahadur S. Sundararaman was born in the year 1881 in the Tanjore District. His earlier years were spent at Saidapet under the beneficent influence of his father who was then the Vice Principal of the Teachers' College. He graduated from the Presidency College, Madras taking the M. A. degree in Botany with high honours, winning the Pulney Andy medal. In 1905 he entered the Madras Agricultural Department as an assistant under the Economic Botanist. An outbreak of a virulent disease of palmyras and the prevalence of sugarcane redrot in the Godavari and Kistna districts focussed the attention of the Madras Government to the need of Mycological investigations in this province and Dr. Butler, Imperial Mycologist, was requested to undertake the investigation. Mr. Sundararaman who had received his Mycological training under Dr. Butler himself was posted to help him. In this work he acquitted himself creditably and Dr. Butler was greatly impressed with the enthusiasm and earnestness of his young assistant. In his memoir on the palmyra 'Bud-rot' disease, Dr. Butler has recorded his appreciation of Mr. Sundararaman. The training he received from this eminent scientist in the early years of his service was a great asset which stood him in good stead and enabled him in later years to become a successful Mycologist. He was appointed in 1910, chief assistant to Dr. McRae, the first Madras Government Mycologist. In June 1920 he was admitted into the Madras Agricultural Service as Assistant Mycologist, a post which he occupied but for a short time; when Dr. McRae was transferred to Pusa as Imperial Mycologist, Mr. Sundararaman was appointed Government Mycologist in the Indian Agricultural Service.

This was no mean distinction, for it must be remembered that the entry of Indians to the Imperial Service was restricted to a very limited number.