

stems and branches on small trees could be cut into two with a sharp knife. For leaf eating caterpillars hand-picking should be done before they spread. Besides insect pests we have fungus pests also, apple blight and black spot. Our treatment of Bordeaux mixture is too well known to require description. If the plant is bad beyond remedy, it should be cut, removed and burnt. Discretion must be used in applying insecticides on the fruits as they are poisonous. As fruits ripen, the spray fluid should be diluted. No spraying should be done in the final stage of the fruits.

While concluding, I might say that the question whether the improved system or the local system of cultivation is profitable, cannot be answered at once. While deciding this question, one of the chief points for consideration is the nature of the demand for the fruits at the market. We see that the number of men who use these fruits is increasing. We should know whether they care for quantity of an indifferent sort or for quality *i.e.* the size, colour, and flavour of the fruits. Poor people here do not buy apples; it is only the rich class who generally care for the fruit. In these circumstances improved system of cultivation is certain to pay in the course of a few years, though not at the start of the plantation.

Mr. Javarayya also gave details of cultivation charges and a balance sheet showing that, at the end of 20 years, a profit of Rs. 700/- per acre may be obtained in favourable cases.

Notes.

We offer our hearty congratulations to Mr. A. Seturama Aiyar, Dip. Agri., of Needamangalam on the title of Rao Sahib conferred on him on the occasion of H. M. the King Emperor's birthday. Passing out of the Saidapet Agricultural College nearly 20 years ago, with a good Diploma, Rao Sahib Seturama Aiyar chose to be a gentleman farmer and settled at Needamangalam. He took prominent part in all kinds of public life in the district during these years, but he was more prominently known for his enthusiastic honorary work in the

Cooperative line. He is one of the ardent members of the Students Union and we are glad that one more of its members—last year it was Rao Sahib A Rama Rao—has been honoured.

A correction.—With regard to the note on the late Rao Bahadur C. K. Subba Rao's water lift, we are informed by T. S. V. that the lift which he saw installed at Palur was the Persian Wheel and not the See-Saw Water lift, although the late Mr. Subba Rao invented the latter.

The use of fish as cattle food has a novel sound, but it appears to be a common practice in various parts of the world. In Shetland and Iceland dry salt fish is fed to cattle, sheep and even to horses. So long ago as 1853, Sir John Lawes carried out experiments at Rothampsted on the feeding of pigs with dry Newfoundland cod fish. He found that the fish-fed pigs were fat and well grown, and there was a good proportionate increase to the food consumed. Although fish does not compare favourably with groundnuts so far as fattening value is concerned, it is suggested that on the coast a considerable saving might be effected by its use *C. I. From The Agricultural News.* (Fish was tried as cattle good on the Central Farm last year, with some success.—Editor.)

The trouble of getting a sufficiency of jute fabric has led the British Government to adopt coarse cotton cloth for the making of sand bags. A German Journal shows that the enemy is using "Stranfa"—a product of straw in place of jute for forage bags etc. The substitute is only a partly efficient one. Now, when the belligerents are on the lookout for substitutes, it is a strange thing to note in the May issue of the Indian Trade Journal that there is a tremendous decrease in the export trade in Indian Jute and gunny bags, including Bimlipatani jute (gogu bags) which are cheaper than coarse cotton bags and even better for the use. *K. C. J. (from the Journal of the Royal Society of Arts.)*

In Lalgudi division of the Trichinopoly Taluk, a practice obtains of sowing Indigo about 10 days before the harvest of paddy in the standing crop in the months of Feb.- March. The indigo crop is allowed to grow till August. In the beginning of June, when freshes are received in the river, a cutting is taken 4 months after sowing. In this cutting, seeds are also obtained. The cut stems are allowed to grow by an irrigation and the second cutting is taken in August when the crop is finally removed and paddy transplanted. These are single crop wet lands. In the first cutting the plants after being cut are shaken and slightly beaten to get rid of the leaves which are dried. The dried leaves are beaten with sticks and converted into a more or less powdery form and packed in gunnies. The second cutting also undergoes similar treatment and the dried leaves are packed in gunnies. Dye is extracted from this dried leaf by placing it in a big earthenware pot with water and allowing it to soak for about 16 hours. This water is passed through holes in the pot to another pot below. Here the water is churned and lime water added when the dye stuff settles down and clean water stands above. The dye stuff is boiled under fire and small round cakes are made by hand. In some cases, the stuff is powdery when it is called "Avul Sarakku" or assumes the form of beaten rice. The extraction of dye is done at the leisure of the ryot when he has no work.—W. R.

Estate Notes.

Our readers will be glad to know that Mr. J. Chelvaranga Raju, Chief Assistant to the Principal has been appointed Assistant Director of Agriculture and placed in charge of the Central Division, with Head quarters at St. Thomas Mount. We notice that the appointment is on the newly sanctioned scale of Rs. 200—12½—400; and we await further appointments on the new scales to be announced early. Mr. J. C. Raju has had unique experience in agricultural matters and is a man of tact and resources. We dare say that he will justify the selection and spare no pains to show that an Indian member of the staff, not trained out of India, can, under certain circumstances, fulfil

In Lalgudi division of the Trichinopoly Taluk, a practice obtains of sowing Indigo about 10 days before the harvest of paddy in the standing crop in the months of Feb.-March. The indigo crop is allowed to grow till August. In the beginning of June, when freshes are received in the river, a cutting is taken 4 months after sowing. In this cutting, seeds are also obtained. The cut stems are allowed to grow by a irrigation and the second cutting is taken in August when the crop is finally removed and paddy transplanted. These are single crop wet lands. In the first cutting the plants after being cut are shaken and slightly beaten to get rid of the leaves which are dried. The dried leaves are beaten with sticks and converted into a more or less powdery form and packed in gunnies. The second cutting also undergoes similar treatment and the dried leaves are packed in gunnies. Dye is extracted from this dried leaf by placing it in a big earthenware pot with water and allowing it to soak for about 16 hours. This water is passed through holes in the pot to another pot below. Here the water is churned and lime water added when the dye stuff settles down and clean water stands above. The dye stuff is boiled under fire and small round cakes are made by hand. In some cases, the stuff is powdery when it is called "Avul Sarakku" or assumes the form of beaten rice. The extraction of dye is done at the leisure of the ryot when he has no work.—W. R.

Estate Notes.

Our readers will be glad to know that Mr. J. Chelvaranga Raju, Chief Assistant to the Principal has been appointed Assistant Director of Agriculture and placed in charge of the Central Division, with Head quarters at St. Thomas Mount. We notice that the appointment is on the newly sanctioned scale of Rs. 200—12½—400; and we await further appointments on the new scales to be announced early. Mr. J. C. Raju has had unique experience in agricultural matters and is a man of tact and resources. We dare say that he will justify the selection and spare no pains to show that an Indian member of the staff, not trained out of India, can, under certain circumstances, fulfil

the duties of an executive officer in popularising agricultural work in the country. We wish him all success.

The two year courses at the college seem to be quite popular. There was a large number of applicants for admission. About 70 of these applicants were sent for and examined in the first week of June in simple essaywriting, handwriting, dictation and arithmetic and in practical field work. A preliminary selection of 48 students was made; and it is possible that about half a dozen may be sent away after a fortnight's probation, if they do not take kindly to the kind of work to be done at this college. The class, as a whole, appears to be a good one and is representative of all districts and castes.

A Night School for the labourers on the Farm has been opened on the Farm, the Principal being the ardent spirit of the Social Service movement. Messrs. K. Ramiah, K. Unni Krishna Menon and A. K. Subramania Aiyar are the first volunteer teachers, and it is worthy of note that all the three are members of the newly started Coimbatore Hindu Social Reform Association.

The Officers' Club.

The members of the Club gave a successful send off to Mr. J. C. Raju, one of its Life members, before he left the station to join his new appointment.

At the request of the members of the Club, Mr. C. V. Raman, M. A., the distinguished scientist of Calcutta, who had come here for a day, gave an interesting scientific chat on the lines on which Research work must be undertaken. His main theme was that one should do some scientific work in India before he went to a foreign country, and he cited several examples of successful Bengalis who had distinguished themselves in that manner.

Departmental Notes.

1. Mr. J. Chelvaranga Raju, Chief Asst. to the Principal, to be Assistant Director of Agriculture and placed in charge of the Central Division, vice Mr. Roger Thomas, 3rd Deputy Director, transferred to the Southern Division.
2. Mr. R. Ramaswami Aiyar, Farm Manager, 1st grade, to act for Mr. J. Chelvaranga Raju.
3. Mr. T. V. Rajagopalachari, Dip. Agri., Farm Manager, transferred to Sirvel Farm.
4. Mr. V. Dhanakoti Raju, Dip. Agri. Farm Manager, transferred to Nandyal Farm.
5. Mr. C. Narasinga Raju, L. Ag. to be Asst. Farm Manager on probation and posted to the Samalkota Farm.
6. Mr. S. R. Venkatakrishna Mudaliar, B. A. confirmed as 3rd Assistant in Mycology on Rs. 50—5—125. from 1st January 1915.
7. Mr. D. Panakala Rao, L. Ag., Asst. Farm Manager, on return from leave, is posted to the Central Farm.
8. Mr. A. J. Wilson, 3rd Lecturer, Veterinary College, Madras, is appointed Veterinary Assistant in this College vice Mr. S. L. D'Silva, permitted to retire from 1st July 1915.

Members of Madras Agricultural Students' Union.

(*Mofussil*).

Benefactors.

- ✓ 1. Kochu Kunjunni Achan, P., L. Ag.
- ✓ 2. Krishnan Nayanar Vengail, K.
- ✓ 3. Virarayan Tirumalpad, T. N.

1st Class Members.

1. Alwa, K. T., L. Ag.
2. Appa Rao, D.
3. Bania, V. M.
4. Chelvaranga Raju, J.

5. Deviah, K. C.
6. Eapen George M., L. Ag.
7. Gurunatha Pillai, V. S.
8. Hayavadana Rao, K. R.
9. Iswaran Pillai, I. C.
10. Kochu Govinda Marar.
11. Narayana Rao, D. L.
12. Panchapakesa Aiyar, M., D. A.
13. Parameswara Aiyar, M., D. A.
14. Patuck, N. H.
15. Ranga Raju, J. R.
16. Ratnaji Rao, V., L. Ag.
17. Ranga Reddy, C.
18. Rama Rao, A., Rao Saheb.
19. Sankara Aiyar, M. S.
20. Srinivasa Rao, H.
21. Subramania Mudaliar, V. P., G. B. V. C.
22. Sundaresa Aiyar, M.
23. Venkata Rao Badami, K., L. Ag.
24. Muthayya, M., L. Ag.
25. Ramaswami Aiyar, T. S., L. Ag.
26. Sankunni Menon, K. P., L. Ag.
27. Siva Rao Badami, L. Ag.
28. Vyasaraajan, C. P., L. Ag.

Ordinary Members.

1. Anantarama Sastri, S.
2. Audinarayana Chetti, B.
3. Azizuddin Sahib, Muhammad, D. A.
4. Babu Rao, S., D. A.

5. Balakrishna Murthi, D., D. A.
6. Bhandary, K. T., L. Ag.,
7. Budhavidheya Rao, T., L. Ag.
8. Chandrasekhara Mudaliar, A. R.
9. Chinnathambi Pillai, A., L. Ag.
10. Daniel, S., L. Ag.,
11. Dhanakoti Raju, V. G., D. A.
12. Dwarakanath, B., L. Ag.
13. Ellappa Chetti, C., L. Ag.
14. Ganapathisundaram, T. S.
15. George, M. C., L. Ag.
16. Gopalaswami Mudaliar, S.
17. Gopalakrishna Raju, L. Ag.
18. Govinda Kidavu, M., D. A.
19. Gururaja Rao, K. M., L. Ag.
20. Javarayya, H. C., L. Ag.
21. Jogi Raju, G., D. A.
22. John, W. J.
23. Kesava Pillai, N., L. Ag.
24. Kamakshi Row, G.
25. Krishna Aiyar, D., L. Ag.
26. Kulandaiswami Pillai, N. S.
27. Krishna Aiyar, T. A., L. Ag.
28. Krishnan, P. G., D. A.
29. Krishnaswami Aiyar, K. V.
30. Kunhambu Nambiar, M., L. Ag.
31. Lakshman Rao, T. S., D. A.
32. Madhava Rao, B.
33. Madiah, C. S., L. Ag.
34. Mal, Rajagopal G., L. Ag.

35. Manicka Mudaliar, V.
36. Muthuswami Aiyar, V., D. A.
- ✓ 37. Narayana Aiyangar, K., D. A.
38. Natesa Aiyar, L. S., D. A.
39. Narasinga Raju, C., L. Ag.
40. Narayana Aiyar, K., L. Ag.
41. Narayaniah, S., L. Ag.
42. Narayanaswami Aiyar, V. S., D. A.
43. Panakala Rao, D., L. Ag.
44. Pandit, R. P.
45. Parthasarathy, B. K.
46. Paramanandam, T., L. Ag.
- ✓ 47. Raghavachari, W., D. A.
48. Raghava Aiyangar, S., D. A.
- ✓ 49. Rajagopalachari, T. V., D. A.
50. Rajagopala Naidu, G.
51. Ramanatha Aiyar, K., D. A.
52. Ramalinga Vadiar, C. S., D. A.
53. Ramanujachari, K., L. Ag.
54. Saldanha Isidore.
- ✓ 55. Sankara Aiyar, K., D. A.
56. Sankaranarayanan, K. R.
57. Sankaran Nair, Kunhi, L. Ag.
58. Satagopa Aiyangar, N., L. Ag.
59. Seshachari, C. V., L. Ag.
- ✓ 60. Seturama Aiyar, A., D. A.
61. Sitaram Patrudu, S., L. Ag.
62. Sivaramakrishna Aiyar, N., L. Ag.
63. Sivarama Rao, D. B., L. Ag.
64. Siva Rao Bhairy, L. Ag.

65. Sitaram Chetti, M. K., L. Ag.
66. Srikantiah, S. V.
67. Srinivasacharlu, T. V.
68. Sriramulu Pantulu, R.
69. Subramania Aiyar, C. S.
70. Subramania Kandar, P.
71. Subramania Aiyar, P. S., L. Ag.
72. Subramania Aiyar, T. V.
73. Subramania Aiyar, R.
74. Subramania Sastri, V. S., D. A.
75. Sundara Aiyar, K. P., L. Ag.
76. Sundaram Aiyar, K., D. A.
77. Tilloo, K. B., D. A.,
78. Tirumuruganatham Pillai, A. V., D. A.
79. Vythinatha Aiyar, K.
80. Vellodi, M. U., L. Ag.
81. Venkatrama Aiyar, D. K.
82. Venkatrama Aiyar, P. S.
83. Venkaswami Rao, T. R., D. A.
84. Venkatramiah, R.
85. Vijayaraghavachari, V.
86. Viswanatha Aiyar, N. V., L. Ag.
87. Viraraghava Rao, M., L. Ag.
88. Pranatharthihara Aiyar, S., L. Ag.
89. Manga Razu, K., L. Ag.
90. Sankarakumar, L., L. Ag.
91. Srinivasachari, N. R., L. Ag.
92. Viraswami, B., L. Ag.
93. Vittal Rao, U., L. Ag.
94. Yesudasan, A. L. Ag.

List of Members residing on the Estate.

1st Class Members.

1. Ananda Rao, D., B. Sc.
2. D'Silva, S. L.
3. Ramaswami Aiyar, R.
4. Ramaswami Sivan, M. R., B. A., D. A.
5. Ranganath, T. R., L. Ag.
6. Tadulinga Mudaliar, C.

Ordinary Members.

1. Cherian Jacob, K. L. Ag.
2. Jivana Rao, P. S., B. A.
3. Krishnamurthi Rao, K., D. A.
4. Lakshman Row, T., B. A.
5. Mangesha Rao, M., D. A.
6. Nath, B. V., F. C. S.
7. Narayana Rao, T. V., D. A.
8. Narayana Aiyar, C., D. A.
9. Ramiah, K., L. Ag.
10. Raghunathaswami Aiyangar, P. A., D. A.
11. Raghavendra Rao, P. V., D. A.
12. Raghavachari, K., L. Ag.
13. Ramachandra Rao, Y., M. A.
14. Rangaswami Aiyengar, G. N., B. A.
15. Sankaranarayana Aiyar, K.
16. Subramania Aiyar, A. K.
17. Subramania Aiyar, S., D. A.
18. Sundararama Aiyar, S., M. A.
19. Unni Krishna Menon, K., D. A.
20. Venkatraman, T. S., B. A.
21. Venkatraman, T. S., D. A.
22. Venkuswami Aiyar, P. S., L. Ag.

Seeds and Plants of Commercial Products &c., forwarded to all parts of the World.

ALL KINDS OF

Cocoanut	Mango	Jamboos	Green Manuring
Coffee	Durian	Pine Apples	seeds of Crotoarial
Tea	Mangosteen	Star Apple	Vigna, Ground-
Cinnamon	Sapodilla	Pomegranate	nuts, Grevilad
Cocoa	Avocado Pear	Santal &c. &c.	Albizzia &c, Iec.
Rubber	Litchi		
Cardamom	Rabutans	Palms a speciality	Cocoanut varieties
Pepper	Lognar	Ferns	Ordinary cocoanut
Cinchona	Orange	Cicads	Red
Coca	Lime	Orchids Lilies	Siamese "
Kola	Lemon	Crotons	Husk edible "
Clove	Custard Apple	Hibiscus	Ornamental "
Nut-meg	Almonds	Anthuriums	Dwarf green "
Cotton etc.	Granadilla	Amarantas	King red "
	Velvet Apple	and many	" Yellow "
Fruit Trees all	Billingbi	other Foliage	" Dwarf "
the leading var :	Nam-nam	Plants in stock.	Golden "

Rubber varieties, Para Rubber, (Hevea Brasiliensis), Panama Rubber, Ceara Rubber, West African Rubber, Manihot Dichotoma, M. Pianhyensis, M. Heptahylla &c.

Prices &c. can be had on application to

J. P. ABRAHAM, } *Telegrams:*
Nurseryman & Seed Merchant, } Abraham—Florist, Mutwal
Mutwal, Colombo, Ceylon. } *Code—A. B. C. 5th Edn.*

SHOW GARDEN * * * PLANTS AND SEEDS

Different kinds of Grafted Mango Plants 3 years old from As. 8 to 12
Different sorts of Grafted Fruit trees such as Guavas, Pomegranates
Oranges, Limes, etc., from As. 8 to 12. Varieties of English Vegetable
Seeds in 20 packets Rs. 3-8-0. Varieties of English Flower Seeds in 20
packets Rs. 3-8-0. Varieties of Indian Vegetable Seeds in 20 packet,
Rs. 2-8-0.

Apply for the English and Tamil illustrated Catalogue.

S. K. I. Abdur Rahiman Sahib,
Nursery and Seedsman, **SALEM.**