To Messrs. R. W. Littlewood and R. C. Broadfoot, who as Presidents have been actively helping the Union in its various activities, we tender our grateful thanks. We are specially indebted to Mr. and Mrs. M. C. Cherian for helping us in the arrangements for the tea on the sports day. To all other ladies and gentlemen who in various capacities have helped the Union in the Jubilee celebrations, as well as in its everyday activities during the year, we record our grateful thanks.

Conclusion. We conclude this report with a fervent appeal to all gentlemen who are not yet members of the Union to join it and become subscribers to the Journal. By doing so they profit themselves and enhance the reputation and usefulness of the Union.

Agricultural Jottings.

(From the Department of Agriculture, Madras).

THE MAHALI DISEASE OF ARECANUTS. A WARNING TO ARECA GROWERS

Mahali or *Koleroga* is the most destructive disease of arecanuts in South India. It is caused by a parasitic fungus *(Phytophthora arecae)* which flourishes in very wet weather. Hence it occurs in areca-growing tracts where the monsoon rains are very heavy. In South India, the disease is known to appear every year in the districts of Malabar and South Kanara, in the *malnad* districts of Mysore province and in the states of Cochin and Travancore. The disease usually attacks growing nuts causing rotting and shedding. Under favourable monsoon conditions, the disease may appear with such intensity as to destroy the whole crop. Occasionally, the disease attacks the crown of the areca palm and causes the death of the tree.

Control. A very efficient method of controlling the disease is now known. It consists in spraying on the areca bunches a mixture (called Bordeaux mixture) which on drying serves as a protective coating. Several garden owners are adopting this method of control year after year with conspicuous success. During the last monsoon, the disease broke out in epidemic form in South Kanara and those who carried out timely spraying were able to save their crops, while others who did not do the spraying lost heavily. In particular tracts the whole crop was lost and those garden owners to whom their areca garden was the sole means of livelihood found themselves in an utterly helpless position. To obtain the maximum benefit, the areca bunches should be sprayed twice—one just before the outbreak of the monsoon when the nuts are small, and again some weeks (about six weeks) later when the nuts have grown bigger. The spray mixture can be prepared by garden owners from ingredients which are obtainable in village bazars in areca growing areas. English and vernacular leaflets issued by the Madras Department of Agriculture and giving particulars of the methods of preparation of the mixture and the use of the spraying machine can be obtained free from the agricultural demonstrators in the districts of Malabar and South Kanara or from the Deputy Director of Agriculture, Tellicherry, who will be glad to furnish any further information to areca growers.

A Superior Cotton for the Tinnevelly Tract. The Tinnevelly tract comprising the three districts of Madura, Ramnad and Tinnevelly grows cotton annually on an extensive area of over 500,000 to 600,000 acres. The type of cotton under cultivation has a good reputation for its quality. Work on the improvement of cotton at the Koilpatti farm was started as early as 1902. But after repeated trials of many varieties it was found that Karunganni cotton was the most

suitable and work was concentrated on this variety from 1907 onwards. Several types were evolved in 1913 and distributed for cultivation. Further selections were continued and as a result, C-7 and A-10, two superior types were isolated. These were made available for general cultivation in 1925 and found suitable for several tracts and the area under C-7 alone was by 1935 increased to over 90,000 acres extending into the Coimbatore and Trichinopoly Districts.

Although C-7 is a good yielder with a good ginning outturn and capable of spinning up to 28's standard warp counts, it suffers from a serious defect, like other Karunganni cottons grown in this tract, in being susceptible to heavy boll shedding if a rain is received in February. As a result of further work, a type has now been evolved which on account of its earliness and vigour escapes the untimely rains and produces a good crop. It gives a better yield than C-7; the ginning outturn is as good and the spinning performance is also slightly better. This cotton is named K. P. T. I. and the seed was ready for distribution in 1934. The cotton did so well in the different localities where it was tried, that the area is rapidly extending and the demand for the seed increasing. In the course of a few years this strain is expected to completely replace C-7 in the Tinnevelly area.

Compost making in Municipalities. It is common knowledge that a well nourished mother means a well nourished child. The same is the case with Mother Earth. Well nourished or well manured land produces a well-fed plant, which contributes to the health of both man and beast. The health of man is therefore intimately bound up with the proper nutrition of the soil.

Good manure both rich in quality and quantity is becoming more and more scarce, owing partly to faulty methods of making and preservation of manure adopted by the ryots. It is well known that a good proportion of cattle dung is burnt as fuel and insufficient attention is given to the conservation of the urine of farm-stock. The department has been teaching the ryots better methods of preservation of Farm Yard Manure. But this is not enough. Efforts must be made to utilise as manure all the voids (both solid and liquid) of man and beast. The ryot should try to return as much plant-food to the soil as is taken away by the crops raised thereon; but sentiment seems to be against the use of the voids of human beings due mainly to its offensive smell.

The following is a short account of attempts to make compost at Proddatur.

All municipal waste material that was available was made use of in composting and which amounted to 60 cubic feet of rubbish and 15 cubic feet of night soil per day on an average. Trenches of 45′ × 15′ × 2′ 8″ were dug to hold the material. A cartload of rubbish was first put in and a cart-load of night soil tipped over it and then a cart-load of rubbish on the top. This was mixed and drawn to form a layer of four inches. The process was repeated till layers of four inches depth were formed one over the other and until a height of 2′ 8″ was reached. The heaps formed in the trench measured 12′ × 3′ × 2′ 8″. The next day's material was similarly treated and built up adjoining that of the previous day. The process was thus repeated daily disposing of all the rubbish and night soil that was coming to the dumping ground.

The compost manufactured during a period of two months from 23rd December 1936 to 23rd February 1937 was auctioned in the middle of March 1937 and it brought in an income of Rs. 180. Nine months' material of the old process was auctioned for only Rs. 500 the night soil being left unsold, because the bid was only Rs. 25. It is thus seen that the extra annual income obtained by making compost is Rs. 455 as compared to the old process. The extra expenditure involved per annum worked out to Rs. 132 for scavenger's wages and Rs. 36 for water supply. Thus a net gain of Rs. 289 was obtained by this process. From

the demand for a month's material on hand it is observed that this manure will be used widely.

Sindwahe Furnace for Turmeric Boiling. This furnace has become well known to all sugarcane growers of this presidency for the manufacture of jaggery using megasse and cane trash as fuel. The saving in fuel and other items of expenditure by the use of this furnace is on an average Rs. 25 to Rs. 35 per acre in Kurnool and Cuddapah districts. The furnace which was introduced for the first time at Kodur to demonstrate the economy of fuel in the manufacture of jaggery was utilised for boiling turmeric using only the dried leaves of the turmeric plant which were hitherto going to waste. The cost for boiling by the local furnace using fire-wood and date leaves worked out to Re. 1 whereas by the new method it came to only four annas. There was thus a saving of Rs. 0—12—0 per charge or Rs. 9 per acre. In view of the fall in prices of turmeric any saving in the cost of production must be welcome to all turmeric growers.

Persian Wheel Water Lifts. Where there is a will there is a way. A local resident of Kodur was advised to fit up a Persian wheel water-lift to his well to irrigate an Orange garden. The depth from ground level to the water-level was 30 ft. Fifty two buckets were used and two pairs of cattle were employed to work the lift. By means of the lift 3 acres per day was irrigated. The land-lord was hitherto using four pairs to work two mhotes for the same area. There was thus a saving of two pairs of cattle and two men per day which may be valued at Rs. 5. It seems certain therefore that this lift can be used for depths beyond 27 feet the maximum specified by the manufacturers.

EXTRACTS

"The prodigious activities of a hen belonging to Signor Vincerzo Massa, of Cerignola, in the province of Bari, are reported by a Florence newspaper. This hen, presented to Signor Massa by a poor woman on January 28th has laid 122 eggs in 4) days with a maximum of twelve eggs in a single day. The meritorious fowl is of native breed and normal size, and the eggs for size, content, and hardness of shell are all equally normal". (*The Veterinary Record*, Volume 49, No. 13, dated March 27, 1937.)

K. U. M.

Gleanings.

Biochemistry in relation to Agriculture by Sir John Russell. *Curr. Sci.* Feb. 1937.

In view of the opinions regarding the diet of the Madrasi expressed from time to time by authorities, the opinion of Sir John Russel would prove of more than ordinary interest. In his view, the average consumption of grain by the Indian ryot works out to be about one pound per head per day; the normal food of the Punjabi consists of 50% wheat, 30% gram and the rest of cereals which should furnish a diet very rich in proteins. In Bengal, the diet was very poor in protein and was almost wholly composed of rice. In Madras they had an intermediate sort of diet, rice accounting for 70% and the rest being made up of protein foods.

S. K.

College News and Notes.

We gather from "The Lincoln Star" that one of our members, Mr. V. Pandu-ranga Rao, has been voted as one of the 19 active members of the Honorary Scientific Fraternity, Sigma XI. We congratulate Mr. Rao on this distinction.

The College re-opened on the 15th June after the Summer vacation and freshers arrived on the 2nd of July.