

waste products" presided over by the Director of Agriculture deserves special mention; almost all the aspects of the possible utilisation of waste were dealt with by the local scientific workers and the visitor delegates and the President summed up the whole situation in a remarkably suitable speech. Another important subject that received special attention was the "Sandal spike disease" a discussion on which was opened by Mr. M. Sreenivasaya from Bangalore, who has been carrying on research on this problem for some years. This session was presided over by Rao Bahadur K. R. Venkataramana Ayyar, Conservator of Forests, Coimbatore, a very experienced forest officer who has had a good deal to do with the Sandal Forests of South India. The subject was dealt with in its various aspects both by the opener and the other botanists and zoologists interested in the problem and the President gave a very interesting resume of the subject including his own personal and long experience of the problem. In addition to these main discussions a joint session of the societies was held over which Dr. Gilbert Fowler, the well known biochemist, presided. Numerous papers were read during this meeting including those from workers at Coimbatore and Bangalore.

All the three associations especially the conveners have to be congratulated for bringing about just a joint session and giving opportunities for various scientific workers to meet together and discuss important problems. The benefits of such meetings are very substantial and we welcome such joint meetings as often as possible. We would at the same time urge on the departments or institutes to which the various workers belong to encourage such conferences and give them all facilities to attend and take part in such gatherings. Details of this joint conference may be found elsewhere in this issue.

Gleanings.

Inherited differences in Taste Reactions. It has recently been shown that individuals differ in their capacity for tasting certain substances and that these differences are inherited. The results of an experiment with phenylthio-carbamide, made at the New Orleans meeting of the American Association for the Advancement of Science, last December are recently published by Dr. A. F. Blakeslee and Dr. A. L. Fox (Jl. Heredity Vol. 23 No. 3). Of 2550 persons tested 65.5% tasted the substance as bitter, 28% found it tasteless while 2.3% found it sour and 4.2% reported another taste. Earlier tests of families had shown that the failure to taste is inherited as a simple Mendelian recessive. When both parents are non-tasters, all the children are the same. This was found to be the case in 39 children from such parents. Individuals also differ in the threshold of stimulation, some being able to detect the taste in a few drops of a 1/500,000 solution while some non-tasters require a hot saturated solution to perceive any taste at all. This substance which is bitter to most people, differs in dalcin, which is three hundred times sweeter than sugar, in that an atom of oxygen is replaced by sulphur. The related p-ethoxy-phenyl-thio-carbamide is identical in taste, but apparently gives a slightly weaker reaction. Similar fumar-proto-cetraric acid, a bitter constituent of certain lichens, distinguishing them from closely selected

species, is tasteless to some while others find it bitter in varying degrees. The odours of certain verbenas, and freesias are also found to produce various sense reactions in different individuals some finding particular varieties odourless. By tests of this kind inherited differences in our sense organs are coming to light. (Nature—September 24, 1932).

A New Process for Wood Preservation. (R. Falk and S. Kamasam, Ind. Pat., 18580 of 1932). The invention is based on the observation that when mixtures containing arsenic compounds and chromium salts in aqueous solutions are used for impregnating wood, neither of the two compounds get washed out within a certain range ($\text{As}_{205} : \text{K}_2\text{Cr}_{207} :: 1 : 1.25$ to $1 : 1.75$) while at others either the arsenic or the chromium salt passes out quite readily. A preservative containing both within the optimum range is very efficient against wood destroying fungi and insects and can be applied by injection in closed vessels or dipping in the open or painting with the solution. It can also be combined with other insecticides and fungicides or fire-proofing chemicals provided the latter are present in small proportion, generally less than 20 percent. (Current Science, September 1932).

India as importer of Copra. The Malayan Agricultural Journal writes:—"In the July number of this journal we directed attention by means of an Editorial and of an article on coconuts and copra in 1931, to the importance of India as a market for high quality copra. It was pointed out that India not only consumes the whole of her Malabar production, but in 1931 took an increasing quantity of Ceylon copra. We further suggested that if Ceylon copra is to be permanently diverted to India it behoves Malaya to export an improved product to the European markets to replace the Ceylon supplies. The Ceylon papers recently to hand publish a memorandum by the Minister of Agriculture and lands, Ceylon recommending a cess on copra for the purpose of a propaganda campaign to extend the market for cocoanut products in India. Our references to the increasing importance to Ceylon of her Indian market however, cannot but be of interest to Malaya because it indicates that Europe will have to obtain from other courses the supply of high grade copra to replace any shortage of supplies from Ceylon. We are ambitious enough to hope that Malaya may be able to satisfy this demand, should it arise. (Malayan Agricultural Journal, September 1932).

Field Control of Mosaic Disease in Hawaii. At the present time mosaic disease in Hawaii is a problem only in a few localized areas and as regards a limited number of highly susceptible cane varieties. The methods used in the field for controlling the disease are outlined as follows:

(1) Rigid selection of healthy cuttings only for seed material. Labourers can be trained to differentiate between healthy and diseased plants, and where such a system of selection is in effect it is possible to have a newly planted field almost entirely free from the disease. It is now known that the mosaic virus can be transmitted by cane knives. Hence these implements should be disinfected frequently.

(2) Substitution of resistant for susceptible commercial varieties. This is the most effective of all means of controlling mosaic; an example is the substitution of D. 1135 in place of Striped Top.

(3) Systematic roguing of fields at frequent intervals in order to remove all diseased plants as soon as possible.

(4) Clean field cultivation. Weed control is of paramount importance in any field. Grasses, even though not affected by the mosaic disease, may harbour the corn aphid.

(5) It is recommended that host plants of the corn aphid such as corn, sorghum etc., should not be grown near corn fields. (*Facts about Sugar*, Vol. 27, Number 8, August 1932.)

Green wrapping protects food. Wrapping paper, of a grassy green hue, is superior to transparent wrappers for oil-bearing foods, according to scientists who have recently conducted tests on various wrappers. The green paper, they say, delays development of rancidity by excluding photochemically active light rays. Black paper has about the same effect:—(*Scientific American*, October, 1932).

Molasses valuable as Fertilizer. Intensive experiments are being carried on by the Hawaiian Sugar Planters' Association looking to the disposal of the 250,000 tons of molasses produced annually by the manufacture of Hawaiian raw sugar, says "Food Industries". The market, hitherto enjoyed, for this molasses has largely disappeared, until the industry is faced with the problem of disposing of about 90% of the annual production. It contains on an average about 45% of potash and somewhat less than 1% of nitrogen. Its percentage of organic humates is very high. Partly to render the fertilising constituents available but mainly to make a portable mixture of the very heavy, viscous molasses, it is subjected to a charring process with sulphuric acid, followed by the addition of basic crude fertilizers which, together with mill ash, result in the formation of a dry, granular, and readily handled product. Experimental research on the fertiliser has been transferred from the laboratory of chemistry to a plantation factory where, at the present time, several types of mixtures are being prepared on a semi-plantation basis. Soil pot-tests carried out at the experiment station have shown extremely gratifying results. One observation points to the possibility that the undefined humic constituents of molasses give the mixture a value to the plant not to be obtained by the employment of any commercial inorganic fertilizer when used on the same basis of plant food content.—(A. E. B. in *Scientific American*, October 1932).

ABSTRACTS

The Cultivation of Coimbatore Seedling Sugar-canes in South India.—A. C. Edmonds, S. Sitarama Patrudu and M. Ramamurti (*Madras Agri. Dept. Bull. No. 30, 1932*.) The authors attribute the almost stationary area planted under sugar-cane in the Madras Presidency (about 120,000 acres) during the past some decades, and the lack of progress in this direction, to difficulties in regard to water supply. The water requirements for sugar-cane are not definitely known under different soil and climatic conditions, but information obtained at Anakapalli and Samalkotta show that on an average from 4 to 5 acre—9 inches are applied per irrigation, exclusive of losses in irrigation channels, i. e. equivalent to about 100,000 gallons per irrigation per acre. J 247, which is the hardiest of the exotics now being grown, requires the minimum quantity of water, but gives a low yield (about 6,000 to 7,000 lbs. of jaggery per acre) and, except in favourable seasons, a proportion of the canes die. Among the new varieties of thick canes released from the Sugar-cane Breeding Station, Coimbatore, the authors have tried Co. 213 at Anakapalli during the last four years (1927—1931), and the results of a comparative trial between J 247 and Co. 213, which are given in the present Bulletin, show that Co. 213 is a hardier and more resistant variety than J 247 and gives a higher yield of jaggery (about 10,000 lbs. per acre, with a higher percentage of Sucrose (16.02 %), a lower glucose ratio (3.30 %) and a higher coefficient of purity (87.38 %). This new variety tillers well and requires only moderate manuring (1000 lb. of groundnut poonac per acre, provided green manure crops are grown in rotation). The methods of cultivation are described in detail and the authors hope that the introduction of this hardy variety would serve to increase the area planted to sugarcane in this Presidency. (C. N.)

Preli
Perry and
Samples
varieties,
were ana
(1) the pu
min C.
the prev
The "Sh
carried o
as much
vitamin
variety i
very sig
varieties

Meth
Ministry
in convi
wet or
thods of
hands, a
milkers
clean to
dried th
of milki
but rub
Precaut
vessels
contam
other th
were an
samples
an equa
15 and
of 30 sa
bacteri
handed
c. c. of
hair.
than m

An
31st A
Report
in con
of Plan
cooper
introd
regard
various
Bomb
cotton
12's o
24's;
out th