

Gleanings.

The greater the need for brains, the higher the wages..... In general we may note that those industries which have absorbed most brains in their development, notably engineering, also pay the highest wages. Agriculture, which has up to the present remained most primitive, pays the lowest.....

Nature, 24-3-1923.

Denmark's Best Cow. It will interest dairymen to learn that Denmark's best cow for last season yielded, during the year, 20,768 lbs. of milk, making 968 lbs. of butter. She is a big, well-developed cow of the Danish race of milkers, and weighed nearly 1,800 lbs. before her last calving.—South African Dairyman, January, 1922.

Fordson Tractor. "Owing to variation in the rate of feed into a mill, there is fluctuation in the demand for power. If this fluctuation is not met by some form of automatic control on the engine the danger of damage to the mill, or of inefficient separation of the grain, is increased.

A governor may therefore be fitted to this tractor at an additional charge, and they naturally concluded that, in the event of the tractor being used for driving stationary machinery, a governor was regarded by the makers as being necessary."

The short note extracted above from the Scottish Farmer (No, 1577), shows how necessary it is to provide the tractor with a governor to make it an all-round motive power of the Farm.

K. U. M.

Effect of Root Excretion of Paddy Weeds on Crop Production of Rice. In the Philippine Agriculturist of February 1923, Messrs. De Peralta and Estioko record work carried out by them on this subject at the College of Agriculture, Los Banos, during the year 1922. They observe that crop rotation does not always insure a

better return than what could be obtained by growing the same crop continuously. The observations of various workers have shown that roots of plants excrete a substance which is injurious to other crops: and root excretion would appear therefore an important factor in crop production. Experiments conducted by them as to the effect of a few of the commonest paddy weeds on paddy have shown that *Cyperus* spp. and water-lily (*Monochoria hastata* L.) excrete substances beneficial to Rice production, while *Laersia hexandra* Sw. (local name *Zacate*) a common forage crop in the Philippines gives off substances detrimental to rice production. Rice itself produces an excretion harmful to its own kind causing a 9% reduction in yield. The authors suggest that a thorough ploughing and harrowing of the field should be done before planting rice, so as to have the toxic substances destroyed and rendered harmless to the succeeding crop.

Y. R. R.

The Cultivation of Pyrethrum in Switzerland.—*Faes, H.*—The insecticide powder obtained from *Pyrethrum* (*P. cinerariaefolium*) is very effective against *Cochylis* and is obtained by pounding the dried inflorescence of the plant. It is found in a wild state and cultivated in Montenegro, Dalmatia, Herzegovina and in the Quarnero Islands (Istria) up to an altitude of about 1000 m.

The powder obtained is specially active if it comes from half-closed or withered flowers. Unfortunately it is difficult to recognise under the microscope whether the powder is that of flowers picked green or withered. The writer undertook the cultivation of the plant in Switzerland having regard to the difficulties of procuring authentic powder of good quality. When collecting the seed it must be remembered that it is situated below the "florets" which look like a floral receptacle.

Internat. Rev. Agriculture, Rome, 1922.

Coffee Spraying Experiments. In Coorg. Coffee is subject to the Leaf-disease or Red-rust (*Hemileia*) and the Black Rot (*Kole*

roga) which cause a very great amount of Leaf-fall so that most of the bushes become absolutely bare and several of the twigs moreover show a "die-back." Experiments with different fungicides were undertaken at Purchikad Estate, Sidapur, Coorg, and observations on the results of these experiments form the subject of a joint report, published in the Planters' Chronicle of 2nd April 1922 by Mr. D. G. Munro, Deputy Director of Agriculture for Planting Districts and Mr. S. Sundararaman, Govt. Mycologist. Of various mixtures tried at different strengths, Bordeaux mixture at $\frac{1}{2}$ strength (i. e., $\frac{1}{2}\%$ or $2\frac{1}{2}$ - $2\frac{1}{2}$ -50 gallons) mixed with 1 lb. casein as an adhesive was found the most economical as well as effective. Casein adhesive is said to have stood the test of the heavy monsoon rains. The sprayed leaves (May 1922) are reported to have been standing on the bushes in good condition in February 1923, while the flushes which appeared in September 1922 but were left unsprayed had lost all their leaves. In control plots left unsprayed the bushes had lost all leaves. At Sidapur Experiment Station, Coffee was sprayed twice—May and October—and both flushes are still on the trees. The cost of spraying works at about three pies per plant or @ about Rs. 20 per acre, but the difficulty of procuring water and supplying labour stands in the way of a general adoption of spraying. The experiments are proposed to be continued for a number of years in order to get more definite results.

Y. R. R.

Pennisetum purpureum as a Forage crop. Australian Farmers have recently proved the value of Elephant grass or Napier grass (*Pennisetum purpureum*) as a forage crop. This plant is a native of Africa which crops heavily, and is very resistant to drought and has apparently an excellent nutritive value at all stages of development.

In order to confirm this reputation the author examined a number of samples collected in various districts and at different seasons. The results of the analyses indicate clearly that only the

young plants should be considered as fairly good quality forage, and that the feeding value decreases with age and is very low when finally mature.

With *Pennisetum* as with the larger proportion of Australian forage plants, the protein content is low, and as the proteins constitute the essential elements in meat production, it is advisable to supplement this feed with a certain quality of concentrated foods, such as bran, cotton seed cake etc.

All the samples examined were tested for hydrocyanic acid, but the results were invariably negative. As regards this question, attention is called to the fact that other forage plants (*Sorghum* Spp.) possess a hydrocyanic content at certain stages of growth and that generally the toxicity decreases to a considerable extent with age.

International Review of Agriculture, Rome, July 1922, page 830.

T. S. V.

This has been cultivated on the Central Farm for the last 2 years with success. [Ed].

Calcium cyanamide; practical conditions for the use of—as a fertiliser.

In order to overcome the caustic and toxic properties of crude calcium cyanamide it was finely powdered and mixed with peat, other fertilisers being added to the mixture so as to obtain a complete plant food. The whole was inoculated with bacteria (of the group *B. lactis aerogenes* and *B. clavoe*) capable of transforming the cyanamide. The function of peat consists in neutralising any lime that may be present and acting as an absorbent in fresh solution of nitrogenous substances formed by bacterial action. The complete fertiliser was used in comparison with a similar mixture made up with ammonium sulphate. On both sandy and clay soils it proved superior to the latter, for equipment quantities, when used in restricted amounts. In larger supply, however, the acidifying action of the peat by retarding hydrolysis of the cyanamide results in inferior yields as compared with ammonium sulphate mixture.

H. S. R.

American Association for the Advancement of the Science. The 76th meeting of the American Association for the Advancement of Science was held at Boston U. S. A., on December 26—30, 1922. The following were some of the subjects of Presidential addresses in the various sections: "Allurements in Physics," "Gas Ionisation and Resonance potentials," "Geology's Debt to the mineral Industry," "Structure and origin of the Plant-cell," "The mining Industry of Canada" etc.

Analysis of complete Plantain tree from Samalkota Farm.

Dry weight of the entire tree ... 10.98 kilos.

Analysis.—

Nitrogen	111.47 grammes.
Lime (CaO)	140.96 "
Magnesia (MgO)	77.58 "
Phosphoric Acid (P_2O_5)	46.91 "
Potash (K_2O)	436.97 "

The chief mineral requirements of the tree, therefore, appear to be Potash and Lime.

Dr. R. V. Norris, Monthly Report for March 1923.

A Biochemical Discovery of the Ancient Babylonians. "The Babylonians used to cook eggs in an emergency and when no fire was available, by rapidly whirling them in slings" is a statement of *Suidan* quoted by *Sarsi*—an Italian of the 16th century. The accuracy of this statement was challenged by Galileo who recorded his opinion that it was absolutely improbable as the same was not capable of being demonstrated in his time. Commenting on the above, Mr. Leslie J. Harris, of the Emmanuel College, Cambridge, writes to "Nature" of 10th March 1923 to the effect that "within the last few years, it has been discovered the egg white under mechanical strain, such as vigorous shaking, or very high hydrostatic pressure, undergoes coagulation (vide Robertson—"Physical Chemistry of the Proteins"—1918), and that if Galileo had tried the

experiment he could have verified Sarsi's statement." And in conclusion he writes. "The myths and anecdotes of the ancients are almost invariably built on some foundation of fact; and it seems highly probable that the Babylonians were aware that eggs could be coagulated by vigorous movement (such as swinging in slings). If this be so, the phenomenon of mechanical coagulation proves to be another example of a former observation re-discovered—in this case after the lapse of thousands of years!"

Re-discoveries of the sort described above are not at all likely to be unique, if the writings of the ancients or certain apparently curious beliefs of people of the present day inherited from the remote past be viewed with the requisite degree of sympathy. In proof of this may be quoted the case where the power of a few drops of mercury in checking the increase of the pulse beetles in stored pulses—a fact known to the ryots of Mysore for centuries—was tested by Dr. Kunkhikannan of Bangalore and found absolutely correct. He found by experiment that mercury vapour has the effect of inhibiting the development of the embryos of eggs laid by the Pulse beetles. The result was tested recently in America and confirmed.

Y. R. R.

Data on American Dairy Industry.

Figures from the U. S. Department of Agriculture & Census.

Number of Dairy cows	25,061,000
Number of Dairy cattle (Estimated)	32,800,000
Number of Registered pure Breeds	916,602
Valuation of Dairy cattle (Estimated)	\$ 2,000,000,000
Farms reporting Dairy cattle (1919)	4,565,753
Percentage of total number of Farms	(6,448,366) 70.8%
Acreage of these Farms (Estimated)	678,500,000
Valuation of land and building (Estimated)	\$ 48,000,000,000
Population of these farms (Estimated)	23,000,000

Milk Production and uses in 1921.

Production	98,862,276,000 Lbs.
Value of Milk products on the Farms (Estimated)	\$ 2,500,000,000
Whole milk used for Household purposes	45,143,000,000 Lbs.
Per capita consumption of whole milk	49 Gals or 421.4 "
Increase consumption for the year per capita	6 Gals or 51.6 "
Whole milk used for manufacturing purposes	46,493,000,000 "
Value when manufactured (Estimated)	\$ 3,500,000,000
Whole milk used for butter	35,800,000,000 Lbs.
Whole milk used for cheese	3,550,000,000 "
Whole milk used for concentrated milk	3,660,400,000 "
Whole milk used for ice cream	3,555,000,000 "
Whole milk fed to calves	4,260,000,000 "
Whole milk used for unspecified purposes	2,965,868,000 "

HOUSEHOLD HINTS.*What a housekeeper should not do.*

Don't save cold coffee in the pot in which it was made. Draw it off and put it in a jar; cover and re-heat it quickly at serving time.

Don't use dairy butter for frying purposes. It decomposes and is unwholesome. This does not apply to coconut or other vegetable butter.

Don't use table cloths for breakfast or supper. Small d'oyleys are much prettier and more easily laundered.

Don't fill the tea kettle the night before. Fill it with fresh water in the morning, bring it to the boiling point, and then use it at once.

Don't put tablecloths and napkins that are fruit-stained into hot soapsuds; it sets or fixes the stains. Remove the stains first with dilute oxalic acid, washing quickly in clear water.

Don't salt meat before cooking. Add it after the meat is cooked or when nearly done.

Don't put vinegar in metal dishes.

Don't boil meat at a gallop. Boil five minutes, then cook it at a temperature of 160 deg. Fahr.

Don't make bread into large loaves. The centre is apt to be underdone, and spoil easily.

Don't keep custards in an open vessel. They are liable to become poisonous.

Journ. Jamaica Agri. Society, Dec. 22—Jan. 23.

Correspondence.

May I request friends or any of the readers of the Journal to let me have, loose or bound, the following numbers of the Journal? As one of the oldest members of the Union and, for some years, its General Secretary or Editor, I wish to make up a complete set for reference. Price and Postage will be paid by me.

1911—Yellow year book.

1913—Volume I (whole).

1915— „ III (whole).

1916— „ IV (whole).

1918— „ VI (February only).

M. R. Ramaswami Sivan,
Agricultural College, Coimbatore.

5th May 1923.

Students' Corner.

Annual Report of the Students' Club, Agricultural College, Coimbatore, for the year 1922-23.

The working Committee of the Students' Club begs to submit the following report for the year 1922-23.

Strength. There were 119 members on the rolls this year as against 101 of last year. The increase in strength was due to the increase in the number of classes consequent on the affiliation of our College to the University of Madras.