

August transplanting in trebles seems to be preferable to singles or doubles.

I have noted the above when I was looking after my farm before I joined the college. But I have no figures to give. All the same my early planted paddy gave very good outturn while the crop that had to be planted a month late gave a poor return. Both the early and the late crops were planted in singles.

These experiments and experience refer only to main crop paddy. It may be that the results are of local value and perhaps the results may not hold good anywhere and everywhere, but still this gives us a basis for future accurate trials to substantiate the truth of the fact in different localities for both the main and the second crop.

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Notes.

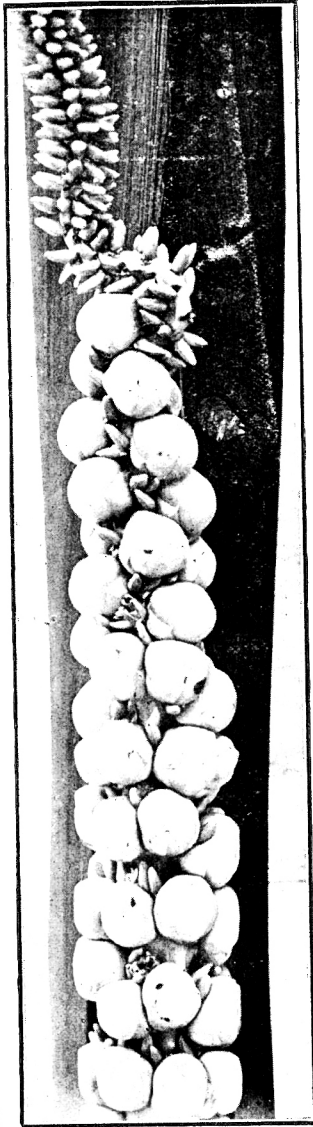
A peculiar Coconut tree:—As a frontispiece to this issue of the Journal is published a picture of a coconut palm noticed by me growing in a friend's house in Triplicane, Madras.

The peculiarity about it is in its inflorescence, which, unlike the ordinary palm, (*Cocos nucifera*, Linn.) is unbranched, but consists of a fairly thick stalk to which the coconuts are as it were stuck up. I examined about a dozen inflorescences of this tree and noticed from 90 to 130 little coconuts in the early stages and in no case did more than three remain to mature. Enquiry about the origin of this plant elicited no more than the bare fact of its introduction as a novelty by a mahomedan merchant from South Arcot.

I shall be glad to learn if any of the readers of this journal have come across a similar tree. Such information may go to



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1. Young inflorescence.
2. The same magnified.
3. Spadix with one coconut.

strengthen my suspicions as to this "freak" being a distinct species of *Cocos*.

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The Agricultural Advisor to the Government of India writes thus in the book "Agriculture in India" 1915-16:—"The Poona College Magazine was started in 1909 and the Journal of the Madras Agricultural Students' Union in 1913 and both of these are serving a very useful purpose in bringing the whole of the past and present students into touch with the present day efforts at Agricultural development. As the material published in them is intended to relate directly or indirectly to Agriculture and consist of actual experiences of the students and of accounts of what is being done by the Agricultural Departments, these magazines are useful not only to students but also to others interested in the improvement of Indian Agriculture."

Pollination and cross fertilization in Cholam—"*Andropogon Sorghum*":—This is the subject of a Pusa memoir by Mr. Graham, Economic Botanist, Central Provinces. Working at it for a number of years he has got the following results:—

*Flowering:—*The flowers in the panicle open in a regular order commencing from the top and gradually proceeding down. It takes about a week on the average for the whole panicle to finish flowering. The time when it is most active is between 2 and 4 A. M.

*Pollination:—*Cross pollination between flowers of the same panicle is the rule, the pollen from the higher flowers pollinating the stigmas of the lower ones. There does occur a certain amount of cross pollination, the chief agency for which being insects like bees and this is more common in the looser types of head than in the compact ones. The amount of cross fertilization taking place varies from 0.6% in the compact ones to 6% in the loose ones. Sometimes it goes even as high as 20%.

Grain colour:—Several natural crosses have been selected, grown and ratios analysed with the following results:—Red and yellow colour of the grain behave as simple allelomorphs, so also red and white and in both the cases red is the dominant. Similarly yellow and white behave as simple allelomorphs with yellow as dominant. There also occurred some red heterozygotes behaving as a dihybrid giving 9 reds, 3 yellows and 4 whites. This means that some whites are undeveloped reds requiring the presence of yellow to develop the red, which has been proved to be the case by obtaining a red by crossing artificially several whites with yellows.

Glumes:—The long and the short character behave as simple allelomorphs, short being the dominant. (*Pusa Memoir Vol. VIII, No. 4*).
K. R.

Root pruning for fruit trees:—This operation is performed in the case of those fruit trees which make a free growth but produce little or no fruit. This operation also requires skill and experience. To do this properly, dig a trench in winter 3 feet deep around the tree and about 6 feet away from the main stem. Any root met with while digging the trench should be cut back to its inner side. If only few roots are met with at the above named distance from the main stem, then dig gradually closer to the latter all around until you reach a point where root growth is profuse. Then cut off all the main roots to be seen with a sharp knife. When this has been done, mix the turned out soil with one or two dozen baskets of manure and return it to where it was taken from. (*From 'The Fruit Garden in India'*).
W. R.

Experiments with coconuts:—Experiments have been in progress on a small scale in Travancore since 1909. A plot of 10 trees which only yielded 44 nuts in 1909 showed a steady increase after manuring and yielded 573 nuts in 1913 in which year it was

manured with 10 lbs. of poonac, 20 lbs. of ashes, 2 lbs. of bone-meal and 1 lb. of salt per tree, the cost of manuring is small and it is estimated that a profit of Rs. 2 per tree should be obtained. A plot of about 250 trees at the Trivandrum Experimental Farm was not well cared for and only yielded 3998 nuts in 1912; after manuring however it yielded 9857 nuts in 1913. A similar experiment carried out by the native owner of a plantation of 263 trees increased the yield from 11,300 nuts in 1911 to 19,400 in 1913. Root disease is the most serious pest of coconut palms in Travancore. Destruction of diseased trees is generally necessary but experiments in segregation and manuring show that there is hope of saving some of the affected trees in certain cases. Stem bleeding disease has also appeared in Travancore and the remedial measures recommended by Petch viz., cutting out and burning the diseased material and singeing and tarring the damaged stems have been demonstrated to owners of diseased trees. Bud rot is rarely seen in Travancore. Twelve year old trees grown in Ceylon from Java seed have yielded large nuts each giving 9 oz. of copra. A plantation of these is being made for future supply of seed nuts. (*From Tropical Agriculturist*).

W. R.

* *Measures against Plant pests and Diseases*:—It has been indicated that a Rhinoceros beetle (*Oryctes Rhinoceros*) is the chief enemy of coconut cultivation in Samoa. The chief measures adopted against the pest have been (a) the destruction of old coconut wood and shells lying about the cultivation (b) the use of this material as traps, which were burned after 6 or 8 weeks. (c) the promulgation of a "duty day" in which all Samoan males had to make a thorough search in the native plantations for pests with a view to their destruction. In addition to these measures there has been an attempt to introduce a natural enemy of the beetle. The pest attacks especially groups of young palms and

extends in the direction of the prevailing winds. The want of labour hinders the proper control of the insect and it is hoped that the importation of Chinese may help to meet this difficulty. (*From the Bulletin of the Imperial Institute*). W. R.

Estate Notes.

Well boring demonstration :—A demonstration on the use of the hand well boring appliances was held on the Central Farm for a number of days for the benefit of students. A supervisor of the pumping and boring section of the department had been specially deputed to explain to the students the method of working with the tools. The four mhoite well in the Southern block was the first well to be dealt with and a bore hole was made to a depth of 82 feet with some success. Similar work is contemplated in other wells of the farm.

Conference of the Deputy Directors :—There was a conference of all the Deputy Directors of the Department on the 2nd April. Our Director of Agriculture was also present.

A Foot-ball Match :—A friendly match at foot-ball was played between the Forest College and our team. The match was well contested. Our offence did not fare well in the beginning owing to some changes made. Some of our forwards had to defend and so the front line was weak. To the credit of the Foresters they put in 1 goal before the close of the first half. During the second half three of our players made a very good combination. They were skilful in dibbling combined with passing, so much so that they scored 2 goals amidst loud cheers. Thus the Agriculturists won the day by 2 goals to 1.
