Chromosome Numbers in *Dolichos lablab* (Linn.) and (Roxb.).

THE chromosome numbers in *lablab* have been recorded by Karpechenko (1924)[1] as 22 and by N. S. Rau (1929)[2] as 24 in the somatic cells. Kawakami (1930)[3] reports 11 as the haploid number. The present investigation was done to reconcile these varying records.

Advantage was taken of the wide collection of *lablab*, both field and garden varieties to pick typical varying material for examination. Types of plant pigmentation, seed colour, pod shape and consistency from both field and garden varieties were examined. To this material was added the examination of F_1 plants from crosses between garden and field varieties. Altogether material from nine sources were taken. Flower buds about 2 mm. long were fixed between 9 and 10 A.M. after removing the calyx. Root-tips from seeds sown in saw dust were collected every hour from 6 A.M. to 6 P.M. and those collected between 6 A.M. and 7 A.M. gave the best plates for counting.

The metaphase plates in pollen mother cells showed 12 bivalents. The plates from root-tips gave 24 chromosomes. In the F_1 material no irregularity in chromosome separation was noticed. It will thus be seen that the chromosome numbers in *Dolichos lablab* (Linn.) and (Roxb.) are $2n$–24.

Nemec (1910)[4] records the $2n$ chromosome number in *D. multiflorus* as 24. N. S. Rau (1929)[2] finds 12 as the haploid number for *D. biflorus* (Linn.). The numbers observed for *D. lablab* are thus the same as those recorded for the two others, *Dolichos biflorus* (Linn.) and *Dolichos multiflorus*.

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March 5, 1936.

[1] *Bull. Appl. Bot. Plant Breeding*, 1924–25, **14**, 143. (Abstract in *Bot. Abs.*, 1926, **15**, entry 4919, 728.)

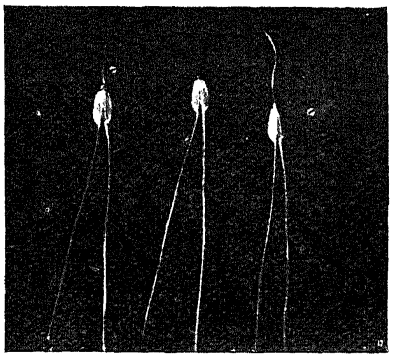
[2] *Jour. Ind. Bot. Soc.*, 1929, **8**, 201.

[3] *Bot. Mag., Tokyo*, 1930, **44**, 319–28 (from Gaiser, *Bibl. Genet.*, 1933, **10**).

[4] From Gaiser, *Bibl. Genet.*, 1930, **6**.

Double Awned Spikelets in Rice.

DURING the rice season of 1935–36 a single plant culture in the F_3 generation of a cross between the Karjat wild rice and a Burmese type was noted with some of the plants showing double awned spikelets confined to the upper part of the panicle branch (see photograph). In such plants not all the spikelets were double awned. There was variation in the number of double awned



spikelets in different panicles of the same plant.

The progeny consisted of 29 plants with some double awned spikelets and 10 plants with normal one-awned spikelets. No such condition was observed in the F_2. All the double awned spikelets were sterile. The material will be grown through further generations to see whether the condition is hereditary and fuller details will be reported in due course.

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Chromosome Numbers in Cymbopogon Species.

THE Genus Cymbopogon (Gramineæ) is of considerable economic importance, in that it contains a number of species, which yield essential oils known in trade, as Lemon grass oil, Citronella oil, etc. But except the taxonomy of the various species, practically very little is known about their cytology. A study bearing on this subject has been undertaken by the author in the Oil Seeds Section of the Agricultural Research Institute, Coimbatore, with the South Indian material. Fischer (1934), in the *Flora of the Presidency of Madras*, Part X, mentions nine species occurring in South India. Five species have so far been worked out and

the chromosome numbers have been determined, as mentioned below.

Name of plant.	(2n) No.	(n) No.
Cymbopogon polyneurus	..	10
,, *cæsius*	20 ?	10+I
,, *flexuosus*	40	20
,, *coloratus*	40	..
,, *citratus*	40	..

The remaining species are being investigated.

My thanks are due to Dr. J. S. Patel, the Oil Seeds Specialist, who has suggested this investigation and who has given me the necessary facilities for work and his valuable guidance.

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Internal Proliferation in *Carica papaya* Linn.

Carica papaya is very variable under cultivation. The object of the present note is to describe a peculiar teratological phenomenon in *Carica* known as "internal" proliferation. Several small fruits found within big fruits of *Carica papaya* were sent to the authors, after the parent fruits were either eaten or destroyed. Figs. 1 and 2 show the small fruits varying in shape from oblong to napi-form. Fig. 3 shows a longitudinal and two transverse sections of the young fruit pictured in Fig. 1.

These fruits, as we are informed, were borne at the base of the parent fruits. Sections show that there is only one loculus in each and the seeds are in the normal position, that is, parietal. The fruits pictured in Fig. 2 show no seeds in them, but the whole morphological structure goes to show that they are also carpellary bodies, although further work must be done to confirm this statement.

So far as we are aware of, such a case has not been recorded in *Carica papaya*, although the abnormalities of the leaves are on record. Worsdell has mentioned under the heading of "Adventitious Flowers," a case of adventitious grapes which he has figured from Masters. This is a similar case, and it is preferred to call it "internal" proliferation rather than class it under "adventitious

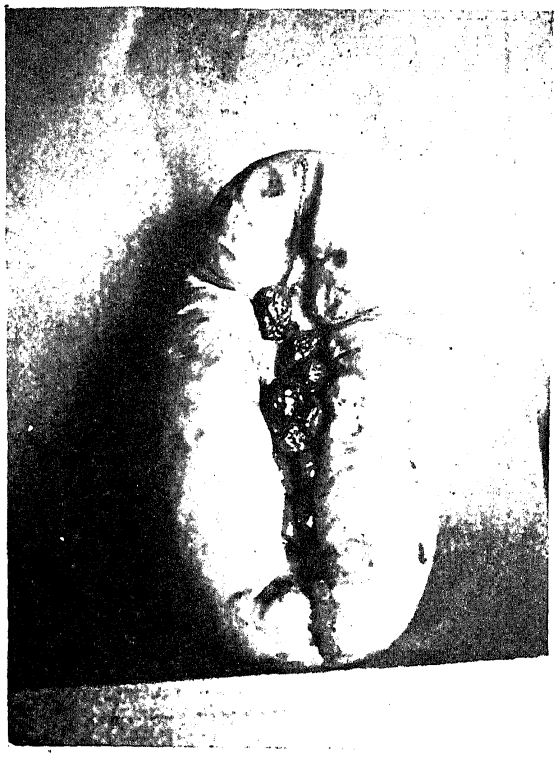

Fig. 1.

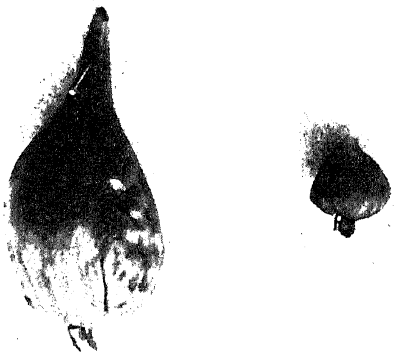

Fig. 2.

Figs. 1 & 2. Small abnormal fruits found in two big fruits of *Carica papaya* Linn.

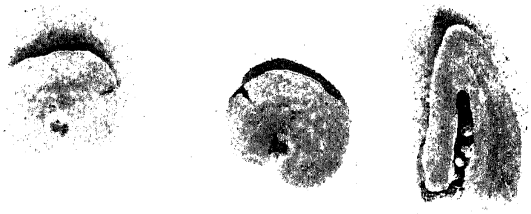

Fig. 3.

L. S. & T. S. through the fruit pictured in Fig. 1.