

Table I.*Pure for Sweetness (xx), Segregating for Juicy Stalks (Dd).*

	Stalk—Pithy DD and dd (Midrib—White)	Stalk—Juicy dd (Midrib—Dull)
Totals of 24 families grown in Nandyal, Hagari and Coimbatore.	1644	689

Table II.*Pure for Juicy Stalks (dd), Segregating for Sweetness (Xx).*

	Stalk (Pure Dull Midrib) Not Sweet (XX and Xx)	Sweet (xx)
Total of 12 families	1176	392

Table III.*Pure for Pithy Stalks (DD), Segregating for Sweetness (Xx).*

	Stalk (Pure White Midrib) Not Sweet (XX and Xx)	Sweet (xx)
Total of 5 families	545	206
Expected (3:1)	563	188
$X^2 = 2.298,$	$P > 0.10.$	

In crosses between a pithy stalked sweet variety and a juicy stalked "not sweet" variety the first generation was pithy stalked and "not sweet". The following di-hybrid segregations have been obtained.

Table IV.*Di-hybrid segregations for Pithy and Juicy stalks and for
"Not Sweet" and Sweet.*

	Stalk—Pithy (DD and Dd) Not Sweet (XX and Xx)	Sweet (xx)	Stalk—Juicy (dd) Not Sweet (XX and Xx)	Sweet (xx)
Total of 5 families	917	348	342	115

In further selections the economically poor combination of pithy stalks "not sweet" has been fixed and is breeding true.

Millet Breeding Station,
Coimbatore,
July 18, 1936.

G. N. Rangaswami Ayyangar.
M. A. Sankara Ayyar.
V. Panduranga Rao.
A. Kunhikoran Nambiar.

Correspondence.

To The Editor, Madras Agricultural Journal, Coimbatore.

Sir,

With reference to the letter of the Parasitologist, dated 11--6--'36, I have great pleasure in answering the points raised by him.

As the monthly reports of the Parasitologist are not published for the benefit of other entomological workers, I was unfortunately unaware of the items of "new knowledge" which he claims to have reported about, when I sent my note for publication to the Editor of the M. A. S. U.

To the claim of priority advanced by the Parasitologist based on his monthly report for December 1935, I take leave to give the following extract from my monthly report for December 1933:—"During the month, when the Cotton Specialist was camping here, I drew his attention to the fact that *Pemphres* was present here. Since then, I have noted adults on *Hibiscus esculentus* plants very constantly and the examination of a few available old plants gave evidence of heavy *Pemphres* infestation on the stems. I have not come across any infested cotton plants so far". This fact was observed even earlier by Mr. P. S. Narayanaswamy, my predecessor at Taliparamba; though he has to my knowledge, not reported about this, I have with me *Pemphres* specimens collected by him from *H. esculentus* plants. I may also enlighten the Parasitologist that there was some correspondence on this subject between the Cotton Specialist and myself.

The joint paper quoted by the Parasitologist is a resume of the experiments and observations arrived at by the authors after the first two years of work at Coimbatore and was presented at the College Day and Conference in October 1933. The observations recorded in my note were made after my subsequent transfer to Taliparamba.

The inquiry of the Parasitologist to the Farm Manager, Taliparamba, was whether he could see the plants which he had listed in the farm. When the Farm Manager consulted me about this I informed him that I was not aware of the availability of these plants either inside the Farm or near about. The Farm Manager's reply must have been a natural corollary of this information, since he could not expect a pest to be present in the absence of the host plants.

I am extremely pained to note the general trend of the remarks of the Parasitologist which, to qualify even mildly, is unhealthy.

Agricultural Research Station, }
Taliparamba, 2-7-'36 }

E. R. Gopala Menon,
Entomology Asst.

To The Editor, Madras Agricultural Journal, Lawley Road P. O.

Sir.

I think a word or two might be said about the host plants of *Pemphres affinis* other than cotton. As early as 1909 Lefroy, in his Indian Insect Life, (page 389) says that the weevil is common in the stems of malvaceous plants, attacking cotton severely but he does not specify the names of these other malvaceous plants. In the Proceedings of the 2nd Entomological Meeting, Pusa, 1917, (page 125), Fletcher mentions that *Pemphres* occurs in bhendi plants (*Hibiscus esculentus*) at Pusa and is probably widely distributed but overlooked. Dr. Ramakrishna Ayyar has mentioned the occurrence of the weevil in bhendi in the Madras Year Book (1918) and the Proceedings of the 3rd Entomological Meeting, Pusa, (1919). Ballard in his paper on "Further notes on *Pemphres affinis*, Fst. the cotton stem weevil" published in Vol. VII No. 12 of the Pusa Memoirs (1923) states the weevil has been bred from *Hibiscus esculentus* and other malvaceous plants. Since then Dr. Ramakrishna Ayyar has expressed doubts as to the correctness of Mr. Ballard's statement for, as late as October 1934 he states "I do not believe that the weevil has been found to breed on any other plant than cotton." I would therefore welcome Mr. Gopala Menon's statement that he has bred the weevil from *Hibiscus esculentus* as it re-establishes the correctness of the original observations.

I would also like to bring to the notice of your readers another point. To me, Mr. Menon's main idea in publishing his observations seems to be to emphasize the fact that *Pemphres* though found in bhendi was absent from the

varieties of cotton grown in the farm. Perhaps, a detailed study of this problem may help to trace the original host plant of Pempheres.

Regarding the two points raised by Mr. Krishna Ayyar (non-inclusion of bhendi as an host plant in the joint paper and the Farm Manager's reply) and Mr. Gopala Menon's reply I leave it to the readers of your valuable journal to judge these on their own merits.

M. C. Cherian,
Government Entomologist.
13-7-'36

STOCK REARING IN THE TROPICS

Management of Cows. All cows are dried off six weeks before calving, or earlier, if their milk yield drops below 25 lb. When a cow is dried off, she may be given a dose of 1 lb. magnesium sulphate, though usually this is not necessary. She is then drafted into the dry cow herd, where she remains on dry cow rations until a month before she is due to calve. She then returns to the milking herd, and comes into the milking shed twice daily, along with the milking cows, and receives milking cow rations on the basis of a yield of two gallons. If she has had a calf before, she requires no further attention before calving, but if she is a calving heifer, or a known heavy milker, she has her udder washed and massaged twice daily, and is lightly milked for a week before calving. Such ante-natal milking should, however, be done very gently and care should be taken to avoid causing pain and consequent apprehension.

A good deal of importance has recently been attached to this question of pre-natal treatment at Pusa, where experience with the Sanhiwal herd has indicated not only a considerable increase in milk yield, but also a remarkable freedom from udder trouble. It is claimed, as an additional advantage, that this treatment makes the cow much more amenable to letting down her milk without the calf. It is not considered at Shika that at present this question is one of much importance. All that is wanted is to secure that the mammary glands are stimulated sufficiently to start secreting fully and immediately the cow calves. It would be most beneficial no doubt, in the event of any congestion of milk, sufficiently great to be likely to cause udder trouble, but this is of extremely rare occurrence with native cows. It is not considered therefore that the practice is worth the amount of extra work involved. By keeping a calving list, prepared month by month, some time ahead, it is possible to ensure that all heifers due to calve come up for observation in due course.

One week before an animal is due to calve, she is transferred into the calving pen. This should be kept very clean, the walls whitewashed after each calving and soiled litter removed daily. During this week the cow is given an extra supply of *dusa** to keep her bowels free, and if there is any sign of constipation, she should be given $\frac{3}{4}$ bottle of linseed oil.

At birth the calf's cord is not ligatured but is cut off, washed with a lysol solution and painted with iodine. Previous experience with tying the cord has been unfortunate. The afterbirth should come away of its own accord within 24 hours, but no action need be taken up to 48 hours. If at the end of this time it is still adhering, it has been found of assistance to twist the end of the afterbirth round a piece of stick and by twisting, exert slight pressure. This twisting should be increased hourly or a small weight attached, and in nearly every case the afterbirth will come away by itself. On no account should attempts be made to hasten its exit by hand, as it is most likely that inflammation will

* Bran of guinea corn (*Andropogon sorghum*).