

Germination was markedly retarded at the concentration of 1.5% of NaCl solution, and no germination occurred at 2.5%. However, apparent varietal differences were observed at 1.5%; traditional indica and floating rice varieties showed 50 to 80% and 70 to 90% germination respectively, while newly improved indica and Japanese varieties showed only 20 to 50% germination (Fig. 3). Japanese varieties harvested in Thailand expressed more resistance to NaCl than the same varieties harvested in Japan, suggesting an influence of growth environment on seed resistance to NaCl.

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Hitoshi TAKAHASHI *Tropical Agriculture Research Center, Japan.*

Chulhathep PONGSROYPECH, Sumet GUNTHARAROM and Vichien SASIPRARA *Department of Agriculture, Thailand.*

## An experiment on silkworm culture in Sri Lanka

During the period from March to June 1971, the authors carried out an experiment on silkworm culture at the Central Agricultural Research Institute (CARI) in Sri Lanka as a part of the survey<sup>1)</sup> on the possibility of developing the sericulture industry that was undertaken as a cooperative research program between CARI and TARC.

Three races of silkworm—two hybrids (F<sub>1</sub> of Japanese×Chinese variety, bivoltine) and an Indian race (polyvoltine) were used. Although the experiment was conducted on a small scale and it was not repeated due to time limitation, the result obtained indicates that the growth and cocoon production were quite satisfactory as evidenced in Tables 1 to 3 and Plate 1.

Mortality of the worm during the period under review from the first instar to the third instar stage was similar with the case in Japan, and that from the fourth instar to cocooning was also very low due to no incidence of diseases.

The cocoons were slightly heavier than that obtained in Japan but with lower percentage of cocoon shell weight to the whole

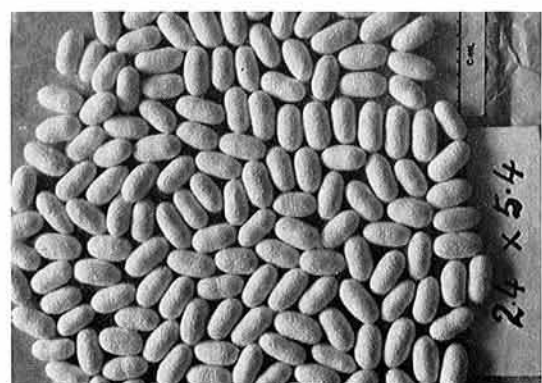
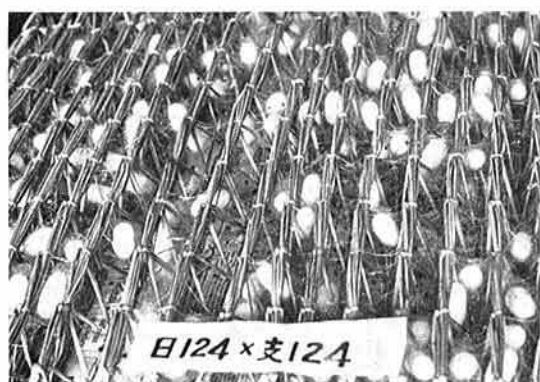
Table 1. Mortality of silkworms

Race	Mortality from 1st to 3rd instar	No. of worms at 4th instar stage	Mortality from 4th instar to cocooning	No. of healthy pupae	Pupation ratio	Cocooning		
						Normal	Double	Total
N124×C124	6%	190	5%	177	93.2%	179	2	181
N2.4×C5.4	4	220	3	211	95.9	213	0	213
Cambodge	8	300	9	267	89.0	268	4	272

Table 2. Cocoon yield

Race	Cocoon yield (g)				No. of cocoons per liter	Per one cocoon*		
	Releable	Defective	Double	Total		Cocoon weight (g)	Cocoon shell weight (cg)	Shell weight percentage (%)
N124×C124	375	35	4	414	82	2.32	44.6	19.2
N2.4×C5.4	435	35	0	470	80	2.25	46.1	20.5
Cambodge	240	—	2	242	172	0.90	8.7	9.7

\* Average of 50 males and 50 females



N124×C124

2.4×5.4

Plate 1. Silkworm at 5th instar stage (6th day, May 8), mounting and cocoons produced

Table 3. Length of larval stage

Race	Length of larval stage (days, hrs.)						Temperature and humidity of rearing room									
	1st instar	2nd instar	3rd instar	4th instar	5th instar	Total	1st instar		2nd instar		3rd instar		4th instar		5th instar	
	°C	%	°C	%	°C	%	°C	%	°C	%	°C	%	°C	%	°C	%
N124 × C124	2.23	2.21	3.08	4.05	6.14	19.23	27.4	89	27.0	79	27.4	82	26.8	83	27.6	76
N2.4 × C5.4	2.23	2.21	3.08	4.05	6.14	19.23	27.4	89	27.0	79	27.4	82	26.8	83	27.6	76
Cambodge	3.14	2.22	3.11	4.00	5.00	18.23	27.3	86	27.1	80	27.2	83	26.9	83	27.6	75

- (1) Rearing method: 1st to 2nd instar stage covered under paraffin paper  
3rd to 5th instar stage uncovered
- (2) Feeding time: 9:00 a. m. and 14:30 p. m. for 1st to 3rd instar stage  
7:00 a. m., 11:00 a. m. and 18:00 p. m. for 4th to 5th instar stage
- (3) Rearing tray: 60 cm × 90 cm
- (4) Rearing room: Entomology Division of CARI
- (5) Mulberry leaf storage: Botany Division of CARI (low-temperature room)

cocoon weight perhaps attributed to the high temperature during the period from the fifth instar stage to cocooning and to the quality of the mulberry leaf used in feeding. The temperature was higher than that recognized as optimum in Japan. Relative humidity was 75 per cent to 89 per cent which is nearly optimum. However, effect of humidity during the rainy season is not known from this experiment.

The result furnishes an evidence that sericulture is highly possible in Sri Lanka. However, for a successful industry, further research works will be needed such as selection of mulberry varieties, methods of propagation and harvesting, soil and fertilizer application, as well as selection of silkworm races and control of worm diseases. Controlling the disease is particularly im-

portant because the sericulture industry, once set up Jaffna from 1944 to 1956, was destroyed by the incidence of diseases such as muscardine and flachery.

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Tsutomu KUROSE *Tohoku Branch, Sericultural Experiment Station, Japan.*  
Ryo YOSHIMURA *Miyazaki Silkworm Egg Experiment Station, Sericultural Experiment Station, Japan.*