

BREEDING OF *MUSCA NEBULO* F.  
FOR BIOLOGICAL TESTS OF  
INSECTICIDES

BIOLOGICAL tests of insecticides, either for standardisation or a study of reactions, require a pure bred healthy race of insects a continuous supply of which is assured by breeding. Grady<sup>1</sup> bred *Musca Domestica* L. throughout the year and Peet and Grady<sup>4</sup> used these flies for tests with insecticides. Hockenyo<sup>2</sup>s reared flies for a similar purpose and Musham<sup>3</sup> reared *Musca vicina* Coq. The food used was chosen frequently because of its odour being attractive to flies and the adult flies of the required standard were those emerged out of pupæ which were segregated.

Monthly data

Month	Average temperature at 10 A.M. °C.		Average temperature for 24 hours		Total No. of flies available for experiments for the month	Life-cycle days (average)
	Average	Humidity	Maximum °C.	Minimum °C.		
June 1947	32	82	32	30	14301	13-19
July "	31	85	31	28	12883	15-23
Aug. "	31	83	29	28	10677	9-15
Sept. "	31	84	29	28	12476	9-14
Oct. "	30	77	30	28	9321	9-13
Nov. "	31	68	31	29	10786	9-13
Dec. "	31	65	29	28	12313	9-15
Jan. 1948	28	68	28	27	12092	9-14
Feb. "	28	69	27	27	8576	9-13
Mar. "	30	68	30	28	9355	9-12
April "	31	74	31	27	8052	9-12
May "	31	74	32	28	10236	8-12
June "	31	78	31	27	16372	8-12
July "	30	85	30	29	13052	8-12

In the course of our studies in this laboratory during the past fourteen months the common Indian housefly *Musca nebulosa* F. was bred continuously, the food adopted for rearing the flies being bran, banana, milk, glucose, vitamins D and E. Dishes with the eggs were kept in a specially designed cage where the entire life-cycle was completed. Adult flies were taken out of the cage and subjected to laboratory tests by means of specially designed apparatus.

The breeding was done entirely under laboratory conditions and the accompanying table shows the number of flies produced as well as other relevant details. The oviposition takes place after the fourth day of emergence and the flies were used for tests on the fifth day.

Breeding took place in the light of an electric lamp. It has been observed that the egg-laying of the insects is affected by the different colours red, yellow and blue.

In tests with suitable insecticides these laboratory bred flies maintained a uniform standard of response under similar conditions. The female fly on an average is more resistant to insecticides than the male fly.

This method of breeding may be found useful in the genetical and cytological studies of these

flies in particular and Diptera in general. Other details of some of our relevant work will be published elsewhere.

Biological Laboratories,  
Geigy Insecticides Ltd.,  
P.O. Box No. 756,  
Bombay, 1.  
October 2, 1948.

P. J. DEORAS.

1. Grady, A. G., *J. econ. Ent.*, 1928, 21, 598.
2. Hockenyo, G. L., *Ibid.*, 1941, 24, 717.
3. Musham, B. F., *Bull. ent. Res.*, 1943, 35 (1), 53.
4. Peet, C. H., and Grady, A. G., *J. econ. Ent.*, 1928 21, 617.

CARBOY AS A CHINESE WORD

FOWLER AND FOWLER, in their Concise Oxford Dictionary, refer to carboy as a "large coloured bottle protected with basket-work". It is further mentioned as a modification of the Persian word Qarabah. Hadi Hassan, in his "History of Persian Navigation", indicates contact between Persia and the Far East even earlier than Islam so that a word in Persian could have come through Pehlavi of Pre-Islamic Persia or via Arabic after that period. Either as an Iranian word or as a loan word previously adapted into Pehlavi it could not have incorporated the Arabic sound of Qaf. It is therefore natural to assume that Qarabah was acquired into Persian during its Post-Islamic period.

Just as Indians have made English their literary language Persians then often wrote and spoke in Arabic. Platts in his Urdu English Dictionary also states that Qaraba is a Persian word but one which has been derived from the Arabic root, "Qarb", having the meaning "to be near". I have shown elsewhere that a genuine word is always connotative, whereas, a typical loan word, whose origin is not known, is disposed off as genuine after having been attributed to it a far fetched meaning. That a root meaning "to be near" should give rise to a derivative meaning carboy is like meat to a gymnast in specialised reasoning but like poison to one depending mainly upon one's common sense. Further a Persian derivative has an Arabic root!

A more probable root for deriving Qaraba would have been the Arabic word "Qarba" meaning Massak or Skin as given in *J. Bombay B. R. Asiatic Soc.*, July 1847, p. 355. The word Massack is in common use in India for a leather bag for watering. However, there seems to be an even better explanation.

Giles, in his Chinese English Dictionary, gives character No. 2321 as Ch'iu meaning, among other synonyms, "a Globe". He gives a few terms compounded with it, one meaning "the terrestrial Globe" and another "Spherical". The most striking attribute of a carboy is not that it is made of glass but that it is a large globe. On account of its being placed in a basket its glassy nature is not very evident.

Character No. 7297 is Lo and means "Deep open basket without cover or handles; crate". On looking at a carboy the basket serving as a crate is the more prominent. What we see is only a "Globe placed in a Basket", and precisely