

amount of pheromone at any time of the day did not vary more than 3.7-fold from the mean level of the day suggesting thereby a maintenance of considerable amount of pheromone in the female body which could be utilized at any time of the day. Shorey and Gaston<sup>6</sup> reported that the pheromone contents in *T. ni* did not vary more than 2-fold from its mean level during 24 hours indicating relatively constant titer of pheromone in the glands, regardless of the time of the day.

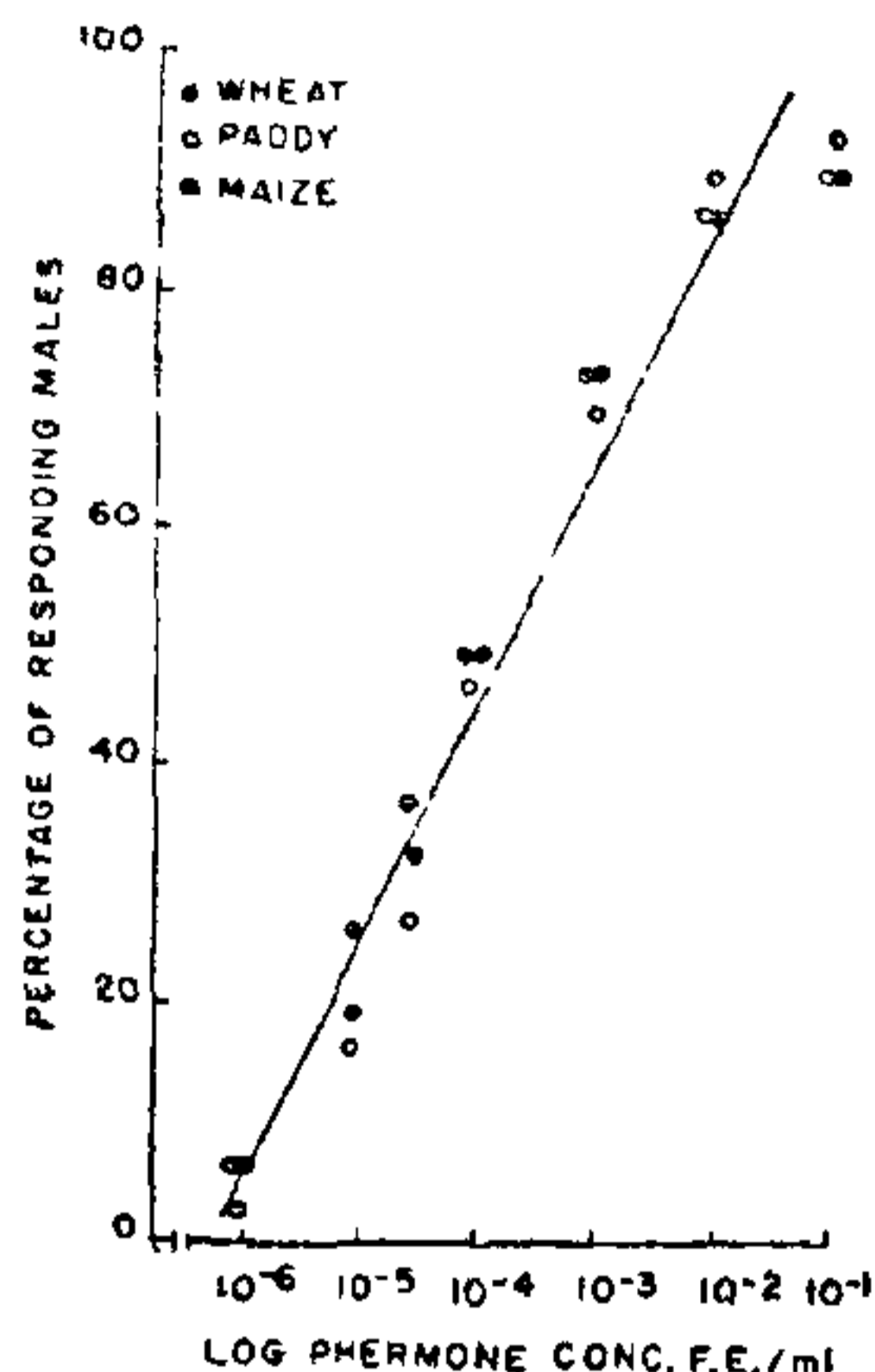


FIG. 2. Relative pheromone content of female *S. cerealella* in relation to various grain-hosts.

Dosage-response curve (Fig. 2) for the pheromone contents in females reared on 3 host-grains, maize, wheat and paddy, showed non-significant differences. It is inferred that the physiology of sex pheromone production is not affected by the food materials of larvae of grain moth.

The senior author is thankful to the Punjab Agricultural University, Ludhiana and University Grants Commission, New Delhi, for providing financial assistance during the course of investigation.

Department of Entomology, K. R. KANAUIA.\*  
Punjab Agricultural University, H. S. SIDHU.  
Ludhiana,  
December 4, 1978.

\* Present address: Department of Entomology, G.B. Pant University of Agriculture and Technology, Pantnagar, Nainital (U.P.).

1. Keys, R. E. and Mills, R. B., *J. Econ. Ent.*, 1968, 61, 46.
2. Sower, L. L., Vick, K. W. and Long, J. S., *Ann. Ent. Soc. Am.*, 1973, 66, 484.
3. Kanaujia, K. R. and Sidhu, H. S., *Proc. Symp., Insects and Environment, Delhi Univ., Delhi*, 1977, Feb. 21-23.
4. Steinbrecht, R. A., *Z. Zellforschung*, 1964, 64, 227.
5. Grant, G. G., *Can. Ent.*, 1975, 107, 303.
6. Shorey, H. H. and Gaston, L. K., *Ann. Ent. Soc. Am.*, 1965, 58, 604.
7. Singh, D. and Sidhu, H. S., *Indian J. Ecol.*, 1976, 3, 49.
8. Shorey, H. H., Gaston, L. K. and Jefferson, R. N., In *Ad. Pest Control. Res.*, (ed.) R. L. Metcalf, 1968, 8, 57.
9. Singh, D. and Sidhu, H. S., *J. Res. Punjab agric. Univ.*, 1976, 13, 85.
10. Jacobson, M., *Insect Sex Pheromones*, Academic Press, New York and London, 1972, p. 382.
11. Steinbrecht, R. A., *Z. Vergl. Physiol.*, 1964, 40, 341.
12. Kanaujia, K. R., *Ph.D. Thesis*, Punjab Agriculture University, Ludhiana, 1976.
13. Shorey, H. H. and Gaston, L. K., *Ann. ent. Soc. Am.*, 1968, 61, 372.

#### SYMPOSIUM ON HIGH ALTITUDE ENTOMOLOGY AND WILD LIFE ECOLOGY

The Zoological Survey of India and the Himachal Pradesh Agricultural University are jointly convening a symposium on 'High Altitude Entomology and Wild

Life Ecology' at Solan, Himachal Pradesh, from June 14-16, 1979.