

Fall Army Worm in a Pine Nursery in Honduras, C. A.

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Fall army worm, *Spodoptera frugiperda* (Smith), ² is a common pest on several row crops in Honduras, C. A. It is the most common pest of field corn (Koone and Banegas, 1958, McGregor, 1976) in the country. It occasionally attacks cotton (Howell, 1975 and 1977). The author has also observed fall army worm on sugar cane, field beans, soybeans, sorghum, and various horticultural crops. Luginbill (1927) and Metcalf, et. al., (1962) list a wide host range in the United States which includes most of the field crops planted today in the Americas. From such a diversity of host plants, one is led to assume that fall army worm L. C. ill probably feed on just about any thing green, although not in population densities of economic proportions.

This note deals with a fall army worm attack of economic proportions in a yellow pine nursery. There is very little information in Honduras concerning the economic value of pine seedlings; however, over \$35,000 (U.S.) has been invested this year in the establishment of the pine nursery where the attack occurred. Honduras a forested country and lumber is its number two export. Forest resources are managed by a government corporation, Corporación Hondureña Forestal (COHDEFOR), which was established in 1974. COHDEFOR has at present three pine nurseries in operation. Each has an annual production of 3/4 to 1 million pine seedlings.

HISTORY OF THE INFESTATION

COHDEFOR has a pine nursery located on the land of the Escuela Agrícola Panamericana (EAP) about 40 Km. east of Tegucigalpa. The forester in charge established the nursery in

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² Lepidóptera: Noctuidae.

March, 1977, after having established and managed the first pine nursery in Honduras located in Siguatepeque. The nursery at EAP has 1.6 million seedlings of *Pinus caribea*, one of the local yellow pines.

On the 26th of April, 1977, the forester reported to me that all of his seedbeds were infested with insect larvae that were destroying the one week-old seedlings. He had noticed the attack on the 24th and had applied dimethoate at 0.10% with a knapsack sprayer with no effect. On the 27th, I applied metamidafos at 0.15% with a knapsack sprayer in 1000 l/ha. of water with a resulting 100% mortality. The infestation consisted of about 90% *S. frugiperda* late 2nd and 3rd instars and 10% *Prodenia* sp. prob. *sunia*³ of the same size.

The forester in charge had never encountered an attack of army worms in his other nursery. However, the other nursery is not situated in an agricultural area; the EAP nursery is in the center of a corn, cotton, sugar cane, dry bean, and cattle production oriented valley. The attack at EAP destroyed more than 30% of the seedlings in three days. I feel that, at least in Honduras, fall army worm should be considered a primary or potential primary pest of pine nurseries situated in agricultural areas. Up to the time of this writing there have been two more attacks of fall army worm in the EAP nursery. Both were successfully controlled with 0.15% metamidafos as mentioned above.

RECOMMENDATIONS

The pine nursery at EAP was built in a former Merkeron grass, *Pennisetum purpureum* (Gramineae), pasture, and there is a significant amount of volunteer Merkeron grass in the borders of the area. On one occasion, I found 75% of the grass infested with 2nd instar fall army worms. One of the other predominant plants is *Portulaca oleracea* (Portulacaceae), a primary host for the genus *Prodenia* (Howe 1, 1977). It is certain that the two pest species migrated from their primary weedy hosts to the pine seedlings as 2nd instars. The elimination of primary weedy hosts from the immediate area is the first step in combating these pests.

The preparation and application of one of the various poison bran baits reported in the literature should give several days control (Luginbill, *op. cit.*; Metcalf, *et. al., op. cit.*).

³ Lepidoptera: Noctuidae.

Finally, direct chemical intervention with metamidafos at 0.15% will control the larvas and does not exhibit any phytotoxicity. No other materials have been tested for their phytotoxicity to *P. caribea* to date. However, on corn, methyl parathion, toxafene, mephosfolan, phoxim, acephate, and chlorpyrifos give over 90% control of fall army worm in Honduras ⁴ and should be considered as possible control agents for pine seedlings

LITERATURE CITED

- HOWELL, H.N. Las Plagas del Algodón en Honduras y su Control. *Folia Entomologica Mexicana*. 33: 22-23. 1975.
- HOWELL, H.N. Notas Sobre el Complejo de las Plagas del Algodón en Honduras, C. A.: Su Ecología y su Control. *Ceiba* 21(1): 29-33. 1977.
- KOONE, H.D. and A.D. BANEGAS. Entomología Económica Hondureña. Ministro de Recursos Naturales, Tegucigalpa, Honduras. 1958.
- LUGINBILL, P. The Fall Army Worm. U.S.D.A. Tech. Bul' 34: 9-10. 1928.
- METCALF, C.L. and W.P. FLINT. Destructive and Useful insects, 4th Ed. Revised by R.L. Metcalf. McGraw-Hill Book Co. New York. 1962. pp. 473-476.
- MACGREGOR, E. Insectos Más Comunes en el Valle de Comayagua. Divulgación Técnica 5. Estación Exp. Comayagua. Sec. de Recursos Naturales. Tegucigalpa, Honduras. 1976.

ABSTRACT

A record of a fall army worm, *Spodoptera frugiperda* (Smith) (Lepidoptera: Noctuidae) attack in a Honduran yellow pine nursery is reported. The attack destroyed 30% of the nursery's seedlings. This is the first record of fall army worm attack on pine in Honduras, C.A. and indicates the pest potential of the species. The attack was successfully controlled with metamidofos. Additional control measures are suggested.

⁴ Unpublished experiments conducted by the author. 1976 and 1977.

