

DEVELOPMENT OF SITE-SPECIFIC CONTROL TACTICS FOR HELIOTHINES IN COTTON

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Abstract

This presentation describes how spatial sprays can be developed for the control of Heliiothines on non-transgenic cotton. Heliiothine spray decisions made in July, August, and September are based upon prescriptions built using temporally separated images. The logic used to garner the information from a temporal analysis employs two images at least three or more weeks apart. A key concept is to categorize a field into three regions based upon the following question, "Is there a problem here?" The three answers are, "No", "Maybe", and "Yes". The need for precise, numerically-based decisions are lessened with the use of imagery because the imagery apportiones the field into various habitats relevant to the population biology of the pest. The skill and judgement of the consultant combined with the delineation of these habitats at a fine spatial scale (i.e., $\leq 4 \text{ m}^2/\text{pixel}$) creates (fairly easily) a map of pest abundance. The map that results from the integration of objective (i.e., the image) and subjective (i.e., the consultant) information provides an assessment of Heliiothine severity on a spatial scale and, if necessary, provides the basis for the development of a spatial pesticide application. Also, the spatial and temporal information can be used to improve the timing of an application. This is particularly important in the case where the information indicates that a blanket application may be the preferred method of control, as opposed to a spatial spray.