Compensation by Sunflower for Loss of Florets and Seeds to Simulated Bollworm Damage

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The African bollworm, *Helicoverpa armigera* (Hübner) (Lepidoptera:Noctuidae) sporadically occurs in great numbers on sunflower and destroys florets and developing seeds. No economic injury level as a guideline for control exists in South Africa and many producers adhere to the current chemical control recommendation of applying insecticides as soon as eggs or young larvae are observed. This study was conducted to determine whether sunflower could compensate for loss of florets, prior to and after pollination, and seeds. Different levels of damage were inflicted by artificially removing florets and seeds, representing 5%, 10%, 15%, 20%, and 30% of the head surface at three plant reproductive stages, namely R-5.1, R-5.5 and R-6.0. An increase in average individual seed mass occurred compared to undamaged heads and there were no significant differences in yield loss between 0% and 30% damage levels at any of the three reproductive stages. Results indicated that sunflower has the ability to compensate for mechanical damage to florets or developing seeds. The current guideline for chemical control, recommending control when eggs or young larvae are noticed, is therefore not economically warranted.