

Adjusting planter parameters to match field conditions can maximize emergence and yield

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Planter performance is a critical component when laying the foundation for a successful crop season. Environmental and soil conditions can significantly impact crop germination and emergence and help or hinder development of an adequate crop stand early in the season. Adjusting specific planter components and settings to match current field conditions can ensure maximized emergence and increase yield in most cases.

The key [planter](#) parameters used to maximize crop emergence include uniform and high-stand establishment, consistent seed depth at planting, and accurate seed placement. To identify the best setting for each parameter, Wesley Porter, an Extension Precision Ag and Irrigation Specialist at the University of Georgia, conducted cotton depth and downforce research, in which he tested three downforce settings, three preplant irrigation applications, three seeding depths, and two seed sizes.

Porter found that wetter field conditions and deeper depths reduced emergence on the whole but using a larger seed produced a slight increase in emergence. Additionally, hill-drop planting was found to overcome some inadequate field conditions, and in some cases, plants were able to compensate for the lack of stand establishment. Overall, Porter found that [environmental conditions](#) are a critical factor in successful planting and recommends that growers monitor these conditions and adjust planter depth and downforce accordingly.

Porter explains the research in detail in the webcast "[Importance of](#)

[Planter Depth and Downforce in Cotton Production](#)" and offers more advice to cotton growers. This 28-minute presentation is available through the "Focus on Cotton" resource on the Plant Management Network. This resource contains more than 100 webcasts, along with presentations from a number of conferences, on a broad range of aspects of cotton crop management: agronomic practices, diseases, harvest and ginning, insects, irrigation, nematodes, precision agriculture, soil health and crop fertility, and weeds. These webcasts are available to readers open access (without a subscription).

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