# Use of Synchronous Pollination to Investigate Kernet Set in Drought-Stressed Maize. (C02-schussler093546-Poster)

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## Abstract:

Synchronous pollination of maize has been shown to increase kernel number/ear. The objective of our studies was to determine the effect of synchronous pollination on kernel set and grain yield of maize subjected to different densities and levels of water deficit at flowering. Several maize hybrids were grown in field environments where water stress treatments and different densities were used to reduce grain yield/plant 10-25%. Pollination was delayed 3-5 days by covering ears with shoot bags prior to silking. Compared to open-pollinated ears, synchronous pollination increased kernel number/ear 5-22% in well-watered environments, and 5-12% in drought stress environments. In well-watered environments, the increase in kernel number was offset by a proportionate reduction in weight/kernel resulting in no net increase in grain weight/plant. In the drought stress treatments, weight/kernel remained constant and slight (4-10%) increases in yield/plant were observed with synchronous pollination. In conclusion, synchronous pollination may help stabilize kernel number establishment and yield potential of maize subjected to plant water deficits at flowering.

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