Use of Soybean Varieties Bred for Specific Adaptation in Site Specifc Farming. (A08-cooper124138-Oral)

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Abstract:

Broadly adapted soybean cultivars sacrifice yield potential at the yield extremes because of lodging or they are too short. To overcome this problem, semidwarf soybean varieties with specific adaptation to high yield enviroments, and tall, drought tolerant varieties with specific adaptation to low yield environments have been developed. These varieties are ideally suited for the site specific farming concept. By planting the semi-dwarf varieties in the high yielding areas of a field and the tall varieties in the lower yielding areas, the overall field average yield can be significantly increased. In the 2001 Northern Uniform Test, averaged over the 5 highest yielding locations, the new semidwarf variety, APEX, yielded 80 bu/a and the tall variety, Macon, yielded 71 bu/a. In the 5 lowest yielding environments, APEX yielded 42 bu/a compared to 53 bu/a for Macon. Averaged over all 10 locations, APEX yielded 61 bu/a and Macon 62 bu/a. When averaged over APEX in the 5 highest locations and Macon in the 5 lowest yielding locations, the 10 location average was 67 bu/a, illustrating the potential yield advantage from utilizing soybean varieties with specific adaptation in site specifc farming. Air drills are currently available that can be adapted to changing varieties and seeding rates on the go.

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