

## SUCCESS STORY

### BIOLOGICAL AND AGRICULTURAL ENGINEERING EXTENSION

#### SOYBEAN PLANTER HERBICIDE PROJECT

by

J. C. Ferguson

Most soybean growers in the high organic soils area of eastern North Carolina are now using granular herbicides as a band application at time of planting.

Normally the herbicide is applied on a 10 to 14" band at rates of 12 lbs. to 16 lbs. per acre; however it has been noted that the herbicide is relatively ineffective except in the press wheel track which in the case of a 6" press wheel may be only 4" in effective width. This situation is not conducive to high speed early cultivation.

At the request and with financial support of the North Carolina Soybean Producers' Association, a two-row planter was modified to include a wide press wheel (14") followed by a tine-like floating rake for incorporation, followed by a second or tandem press wheel also 14" in width.

Soybeans were planted at three locations, one containing 6 acres on which four different combinations and arrangements of press wheels and rake were employed. Ideal moisture conditions were experienced, and only minor differences were noted throughout the 6-acre test, indicating that a single 12" or 14" press wheel would be adequate with good moisture conditions.

Very uniform and excellent control was obtained throughout the 14" band with the same rate of herbicide as used following conventional width press wheels.

From these tests with adequate moisture (dry weather conditions may require more complete incorporation) and from observations of farmers in the area, it is believed that a wide press wheel composed of two conventional width wheels on a common axle

would solve the problem, reducing or eliminating the normal waste of 30% to 50% of herbicide as now being applied.

Further tests under a wider range of soil type and moisture conditions are anticipated for 1973.