



# SOYBEAN PRODUCTION SYSTEMS

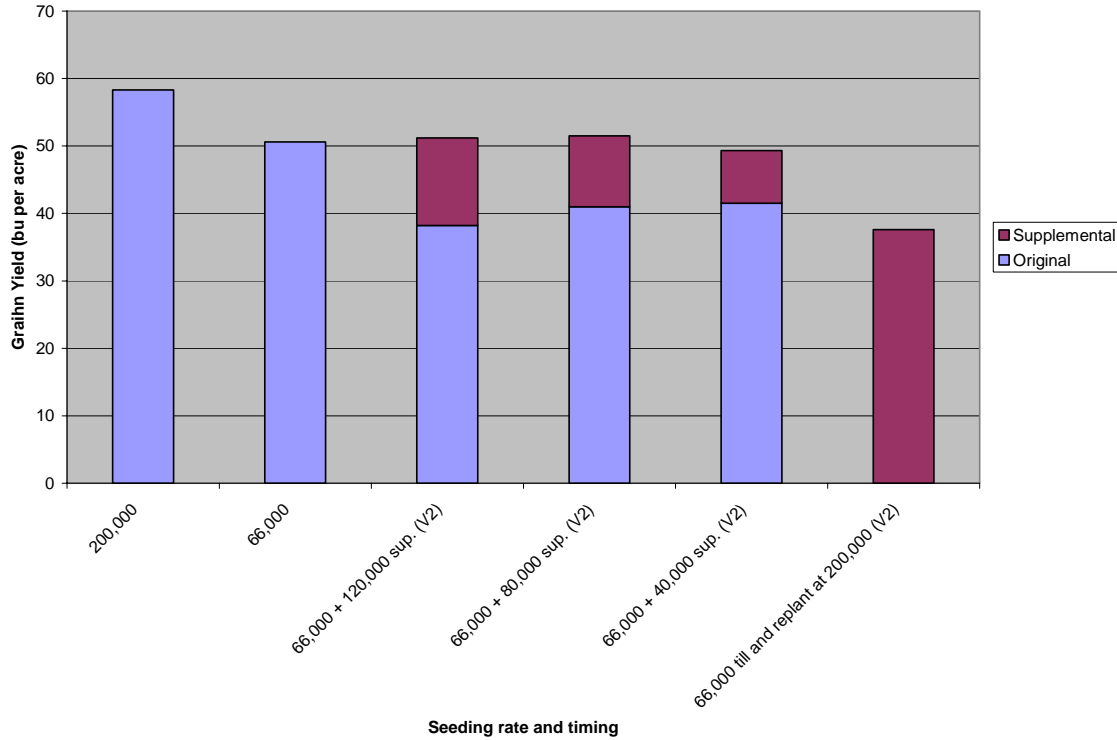
## Thin Soybean Stands – Should I Replant, Fill In, or Leave it Alone?

Shawn P. Conley  
State Soybean Extension Specialist

A significant number of soybean acres were planted just prior to a cool, rainy period that began May 10<sup>th</sup>. From May 10<sup>th</sup> to the 22<sup>nd</sup> there were only 56 GDU (base 50°, Lafayette) accumulated, compared to 163 GDU during this same time last year. As weather conditions improve and soybeans begin to emerge, questions may arise concerning replanting thin stands caused by poor emergence, crusting, and (seedling diseases). Prior to replanting it is essential that an accurate estimate of soybean stand is determined. Our data indicate that a relatively uniform stand of 100,000 plants per acre in drilled and 15 inch rows and 80,000 plants in 30 inch rows will yield 100%. Our data also indicates that a stand of 50,000 plants per acre will yield only 13% less than the maximum yield (for additional yield loss based on plant population please refer to the 2006 Purdue University Corn and Soybean Field Guide ID-179 p. 111) In a normal year when soybeans were planted early and growers could replant for less than a 13% yield loss than that may be the appropriate decision. Unfortunately we are rapidly approaching the end of the optimal planting date window (90% change that yield is maximized). This optimal window for the upper 1/2 to 2/3 of Indiana is between April 20<sup>th</sup> and May 26<sup>th</sup>. In some years this window can stretch into the first two weeks of June however the risk of yield loss is increased once we get past May 26<sup>th</sup>. As we approach that date growers must now factor in decreased yield potential into the replant decision. If soybean stands are only thin in certain areas of a field it is a common practice to fill in those areas with a 30" row planter. Our data suggests that there is no advantage to filling in a thin stand (66,000 plants per acre) with rowed beans (Figure 1). The damage done to the original thin stand coupled with decreased yield potential from the supplemental seeding (late planting date and competition from original stand) will yield the same as if the grower did nothing. Totally replanting this thin stand would significantly reduce yield. The main grower concern with leaving a thin stand alone is weed control. Our data suggests that the weed control technology that we have available today minimizes that concern. A grower should consider the economics of seed input cost (~\$31.50 per unit) versus the potential for another pass for weed control (\$10.50 per acre (1 qt. glyphosate + application cost)). There is less than a 50% chance that an additional weed control pass will be needed in the thin areas as compared to the normal stands unless this is a wet area that consistently has high weed pressure to begin with.



Figure 1. Effect of filling in a thin soybean stand (7.5" rows) with a 30" row planter at V2 soybean. (Sommel and Christmas, 2002)



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