THE OHIO STATE UNIVERSITY
COLLEGE OF FOOD, AGRICULTURAL, AND ENVIRONMENTAL SCIENCES

Hardin County Extension News Release

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Double Crop Soybean Recommendations

Hardin County – Wheat harvest is rapidly approaching, and with relatively high soybean prices, we anticipate many growers will be interested in double cropping soybean after wheat. According to the U.S. drought monitor (https://droughtmonitor.unl.edu/), areas bordering Michigan are abnormally dry, but throughout the rest of the state, soil moisture is good. Early wheat harvest, high soybean prices, and adequate soil moisture make double-crop soybean an attractive option in 2021.

The two primary requirements for successful double cropping are adequate time to produce the soybean crop and adequate water. In Ohio south of I-70, double-crop soybean production is common as there is generally adequate time to produce soybean; however, yield can be variable depending on soil moisture and rainfall. In Clark County Ohio, OSU had double-crop soybean yield averages of 50 bushels per acre, but as low as 21 bushels per acre when water was limiting. North of I-70, double-crop soybean is less common but occurs when the wheat harvest is early and/or when soybean prices are high. In Wood County, OSU had double-crop soybean yield as high as 57 bushels per acre in 2018 and as low as 12 bushels per acre in 2016. (2016 was a hot and dry year.)

Cultural practices, such as row spacing, seeding rate, and relative maturity, may be adjusted to help maximize soybean yield in the double-crop system. Double crop soybean should be produced in narrow rows at 7.5- or 15-inch row spacing. The later in the growing season soybeans are planted, the greater the yield increase due to narrow rows. Soybeans grown in narrow rows produce more grain because they capture more sunlight energy, which drives photosynthesis.

The harvest population for mid-to-late-June planting should be between 130,000 to 150,000 plants per acre. The harvest population for early-July planting should be greater than 180,000 plants per acre. Harvest plant population is a function of seeding rate, quality of the planter operation, and seed germination percentage and depends on soil moisture conditions, seed-soil contact, and disease pressure. Generally, seeding rates between 200,000 to 250,000 seeds per acre result in these targeted harvest plant populations.

Relative maturity (RM) has little effect on yield when soybeans are planted during the first three weeks of May. However, the effect of RM can be greater for late planting. When planting soybeans late, the latest maturing variety that will reach physiological maturity before the first killing frost is recommended. This selection allows the soybean plants to grow vegetatively as long as possible to produce nodes where pods can form before vegetative growth is slowed due to flowering and pod formation. Recommended relative maturity for northern Ohio with soybeans planted July 1-10 is 3.0-3.3.

Finally, while straw removal may delay double-crop soybean planting a day or more, it will improve soybean emergence and add value to the wheat enterprise. Removing the straw will improve the planter or drill's ability to provide good seed-to-soil contact without 'hair pinning (when straw gets trapped in the seeding trench, increasing air spaces) and improve soybean emergence. Straw yields in Ohio range from 1.2 to 1.8 tons per acre. This tonnage creates additional value for a wheat enterprise but will remove approximately $14-15 per acre of phosphorus and potassium value (Ohio Enterprise Budgets).

In summary, factors like an anticipated early wheat harvest and higher than normal soybean prices create a logical opportunity for double cropping soybean in Ohio this year. Producers who choose to double-crop should plant as soon as possible after wheat/straw harvest and are encouraged to follow these cultural practices: use narrow rows, increase seeding rates, use a relative maturity suitable to their region and consider removing straw.

Article written by Dr. Laura Lindsey and Eric Richer, OSU Extension-Ag Crops Team and edited by Mark Badertscher, OSU Extension-Hardin County.