

Save Costs by Reducing Soybean Seeding Rates

Tyler Williams
Extension Educator

Cutting costs is often easier said than done, but reducing your seeding rate for soybeans may be one way to do that. From 2006–2016, farmers across Nebraska worked with University of Nebraska–Lincoln faculty to coordinate on-farm trials in order to find the economically-optimum seeding rate.

Results from these on-farm trials showed that reducing soybean seeding rates from 180,000 or 150,000 seeds/acre down to 120,000 seeds/acre doesn't statistically reduce yields. The fields in these trials were silty clay loam and silt loam soils in south-central and southeastern Nebraska and planted at a 30-inch row spacing. A reduction in seeding rate from 150,000 to 120,000 seeds/acre can result in a \$10.69/acre savings without affecting yield. (Assuming a \$60/unit seed cost at 140,000 seeds/unit.)

Two studies were also



Konnie Robertson, Nebraska Extension in Lancaster County

conducted on 15-inch rows in 2016 on silt loam and silty clay loam soils in southeast Nebraska. Using four planting rates on each field ranging from 90,000 seeds/acre up to 185,000 seeds/acre, no statistically significant differences in yield were found on either site. This is only data from one year, so more years would be needed to make a stronger claim.

It is also important to remember the seeding rate does not equal number of plants at harvest. If your goal is to have 100,000 plants per acre at harvest, it is important to keep in mind you will need to adjust your seeding rate for two factors:

- Check the seed bag tag for the official germination percentage, as it is often below 100%.
- The average seedling and plant survival percentage

is about 85%, but choose proper estimate based on field conditions and prior experience.

If you are looking for ways to reduce soybean inputs this year, but are still hesitant to reduce seeding rates, consider making a comparison on your own field. Nebraska Extension Educators and the Nebraska On-Farm Research Network are able to help you set up a trial and evaluate the data. If you are in Lancaster, Cass or Otoe county, contact Tyler Williams at 402-441-7180.

More information on this research data and other soybean management strategies can be found at Nebraska Extension's CropWatch website and e-newsletter online at <http://cropwatch.unl.edu>

Soil Health Conference, March 5

Nebraska Extension is hosting a "Southeast Nebraska Soil Health Conference" on Monday, March 5, 8:30 a.m.–3 p.m. at the Kimmel Ag Expo Center, 198 Plum St., Syracuse. Partnering agencies are the Nebraska Sustainable Agriculture Research and Education (SARE) Program and USDA Natural Resources Conservation Service.

Topics include:

- Best practices for planting into cover crops.
- Tips for adding cover crops to corn/soybean rotation.
- Grazing strategies.
- Testimonials from producers.

The event is free with complimentary lunch provided, but registration is required for an accurate meal count. Register by Tuesday, Feb. 27 by calling 402-274-4755 or going to <http://go.unl.edu/senebsoilhealth>.

Grain Marketing Basics Workshop, March 7

Marketing grain can be challenging for beginning farmers, landowners and even experienced grain producers. In order to enhance your grain marketing skills, Nebraska Extension is hosting a "Grain Marketing Basics" workshop on Wednesday, March 7, 9 a.m.–12 p.m. at the Cass County Extension Office, 8400 144th St., Weeping Water.

The workshop will cover the basics of ag marketing from University of Nebraska–Lincoln experts, as well as a market outlook from AgWest Commodities. The event is free, but please call 402-267-2205 to register.

Tree Seedlings Available for Spring Planting

Sarah Browning
Extension Educator

Diseases, insects, drought and age take a toll on windbreaks, resulting in the need for renovation or tree replacement. Late fall is a good time to assess your windbreak and order trees for spring planting. Most windbreaks, even those with a few gaps, can be renovated to maintain or enhance their effectiveness.

Windbreak Renovation

Windbreaks can have many purposes, such as enhancing habitat for wildlife, providing snow and wind protection, preventing soil erosion, reducing water runoff or providing additional income. When renovating a windbreak, make sure the re-designed tree stand meets your goals.

Several publications are available from Nebraska Extension and the Nebraska Forest Service providing guidance to renovate and re-design your windbreak, getting it back into a healthy condition and provide benefits for years to come. They are available at <http://extensionpubs.unl.edu>. Find the publications by typing "windbreak" or the publication number into the search box.

- How Windbreaks Work (EC1763)
- Field Windbreaks (EC1778)
- Windbreak Establishment (G1764)
- Windbreak Renovation (EC1777)
- Windbreaks and Wildlife (EC1771)
- Windbreaks for Fruit and Vegetable Crops (G1779)



Sarah Browning, Nebraska Extension in Lancaster County

Many windbreak suffer tree loss due to insects or disease, like these Scotch pine trees dying from pine wilt.

- Windbreaks for Livestock Operations (EC1776)
 - Windbreaks for Rural Living (EC1767)
 - Windbreaks for Snow Management (EC1770)
 - Windbreaks in Sustainable Agricultural Systems (EC1772)
 - Windbreak Management (EC1768)
 - Drip Irrigation Design and Management Considerations for Windbreaks (G1739)
- Four additional publications are available on the Nebraska Forest Service website.
- Care of Newly Planted Trees (G1195), <http://go.unl.edu/newtrees>
 - Trees for Eastern Nebraska, <http://go.unl.edu/eastertrees>
 - Trees for Western Nebraska, <http://go.unl.edu/westerntrees>
 - Windbreak Design (G1304), <http://go.unl.edu/wbdesign>

Purchasing Trees

Deciding on plant species and purchasing plants is the next critical step in the establishment of a windbreak. This

is your best opportunity to avoid plant species susceptible to insect or disease problems. Key points to keep in mind when purchasing tree seedlings include:

- Purchase your stock from a reliable source. Bare-root windbreak tree seedlings are available through your local Natural Resource District office. November is the time Nebraska's NRD offices begin taking orders for windbreak seedlings to be delivered next spring. Over-the-counter tree sales are typically taken through March or as long as supplies last. Locate your local NRD office at <http://nrdnet.org/nrds/find-your-nrd> and look for the Conservation Tree Program.
- Bare-root tree and shrub seedlings can also be purchased from some nurseries. Your seedlings should come from nurseries using locally collected seed or seed from Northern origins. This ensures plants are well adapted to local growing conditions.
- Choose plant material which is suitable for your soils and can survive the

environmental extremes of your site.

- Select insect and/or disease resistant plants whenever possible.
- Don't be too quick to buy the cheapest seedlings; they may not be the best value in the long run.

When ordering trees from your local NRD office, a minimum order of 25 seedlings is required; plant species are sold in bundles of 25 each. If 25 of one species is more than you need, then talk with your neighbors. Maybe you can place a joint order and split the bundles. Plants cost approximately \$0.90 cents each, plus tax and handling. You must pick up your tree seedlings when they arrive at the NRD office in spring.

Plant species commonly available through the NRD offices include the following:

- **Evergreen trees** — Eastern White and Ponderosa pine; Eastern red cedar; Colorado Blue, Norway and Black Hills spruce and Concolor fir.
- **Deciduous trees** — Bur, Northern Red, Chinkapin and Swamp White oak; Black Cherry; Black Walnut; Bitternut hickory and Sugar maple.
- **Shrubs** — American plum; Hazelnut; Redosier dogwood; Chokecherry; Black chokeberry; Serviceberry; Elderberry; Common lilac; Amur maple; Skunkbush sumac.

Usually, windbreak seedlings are two years old and can be 12–24 inches tall, with full, healthy root systems. Bare-root seedlings must be handled carefully to ensure good survivability and performance.

Fruit Trees

continued from page 1

and can cause plant damage if applied after plants have broken dormancy.

Dormant Oil Application — March is typically the month to apply dormant oil sprays to fruit and nut trees to kill overwintering pests in cracks and crevices on trunks and branches.

Temperatures need to be above 40°F when applying dormant oils. Pests controlled include aphids, scales, spider mites, insect eggs and some hibernating caterpillars.

Dormant oils kill by suffocating insects and mites. They are most effective if applied as late in winter as possible, but before spring growth begins. Follow label directions when using any pesticide.

Another great publication is "Fruit

Spray Schedules for the Homeowner" from University of Missouri Extension, <http://bit.ly/sprayschedule>, divided into sections for each type of fruit. It lists common pest problems and their control measures. Growers can pick out the pests that give them the most problems and identify the pesticide applications needed for just those problems.

FOR MORE INFORMATION

- Nebraska Extension NebGuide "Fruit Tree Cultivars for Nebraska," (G1005) <https://go.unl.edu/fruittree>
- University of Missouri Extension "Disease-Resistant Apple Cultivars," <http://bit.ly/resistantapple>