

West Coast Beet Seed Company

Third-party, hybrid seed producer for four sugar beet companies



Hybrid sugar beet seed growing in Oregon's Willamette Valley. Four male pollinator rows(center) cover 12 female production rows. The bushy plants can grow to a height of four feet or more.

Salem, OR

503-339-4600 • www.wcbeet.com

Key Personnel

- Greg Loberg, General Manager
- Barb Trout, Business Coordinator
- Ken Sower, Site Manager
- Tony Chavez, Technical Services Manager

Company Profile

- Producer of hybrid and pre-commercial sugar beet seed.
- Second largest U.S. sugar beet seed producer.
- Owned by American Crystal Sugar, Syngenta, Holly Seed, and SES VanderHave (Belgium-based with operations in Fargo, ND).
- Parent seed all supplied by the owners.
- Seed is nearly 100% Roundup Ready.
- Established 1940.

West Coast Beet Seed Company (WCBSC), owned by four competing sugar beet seed producers, raises sugar beet seed for its owners in western Oregon's Willamette Valley.

"Producing beet seed is unlike most other crops because beets are a biennial plant," says Manager Greg Loberg. "We have a seed crop growing every month of the year. As we harvest the old crop and plant the new crop in August, for a short time we are managing two crops at once."

The most labor-intensive season is during January and February when stecklings (roots) are harvested from field nursery beds and transplanted into seed production fields.

"That busy time corresponds with the Valley's rainy season which often means working in some very muddy fields," Loberg says. "In January, we typically employ 150 or more seasonal workers out in the mud and occasional slushy snow. Whether we are removing stecklings from one of several field nurseries or transplanting into a grower's field, the ground is almost always too soft to allow equipment into the fields."

If there is any saving grace in producing seeds for four owners, the timing and process for each company is the same.

"Sometimes they may have differing ideas about who should get the day's first attention, but those differences usually work



Greg Loberg



Sugar beet seedlings growing in raised nursery beds. Sugar beets are biennial plants that bloom and form seeds in their second year. The beets are harvested for sugar in their first year.

WCBSC Hybrid Sugar Beet Seed Production Cycle

2014

- August:
 - Parent lines planted in the nursery.
- Late November
 - Fabric cover laid down to provide cold protection.

2015

- January-February:
 - Fabric removed.
 - Stecklings (roots) pulled from the nursery and transplanted to seed production fields.
- Summer
 - Seed fields rogued for off-types.
 - Male rows separated, destroyed.
- August
 - Parent seed planted for next year's crop.
 - Seed production rows swathed.
 - Combining begins 7 - 10 days later.
- September-November
 - Seed is scalped and delivered to its respective owners in bulk.

2016

Seed is conditioned by its owners and delivered to farmer growers who spring plant and fall harvest sugar beets.



Sugar beet roots (stecklings or stecks) being removed from nursery beds in preparation for being transplanted into seed production fields. (WCBSC photos)

themselves out with little difficulty,” he says. “Everyone understands the work.”

Transplanting Steckles

Using transplanted instead of direct-seeded commercial seed production fields has advantages for both WCBSC and its members. It overcomes some of the challenges resulting from limited parent seed and the biennial beets longer life cycle.

Transplanting stecklings rather than direct seeding uses less stock seed due to wider plant spacing and provides the seed company more flexibility in determining what cultivars they want to grow for seed production.

“The process to select and plant parent seed for each hybrid for next year’s seed crop must be complete before planting in August, well ahead of when the sugar crop is harvested. When we direct seed, we are making commitments to hybrids before varietal trials are harvested. Some of those hybrids may not be supported by the data.

“Transplanting in January allows our members to utilize an extra growing season for evaluation of new varieties or

the phase-out of old varieties, essentially saving a year in the product development process.

“The switch to transplanting in the past 10 years has revolutionized sugar beet seed production for us,” he says.

Seed Field Selection

Most of the commercial fields WCBSC contracts from area farmers are modest in size. A 40-acre field would be larger than average, while some are under ▶



Steckles will be transplanted by hand into holes made in the soil in the seed production field.



Male pollinator rows being destroyed before the female seed production rows are swathed for harvest later in August.

10 acres. Pre-commercial fields are often less than one acre.

According to guidelines established by the Willamette Valley Specialty Seed Association (www.thewvssa.org), Wilsonville, OR, sugar beet seed production requires isolation from other Beta productions of one to four miles due to wind pollination. Meanwhile, WCBSC requires that consecutive beet seed crops be separated by at least five different crops.

“With some of the separation crops being in place three or four years, it may be 10 years or more before a field can have its next beet seed crop,” he says. “It takes grower cooperation and long-term planning to meet these requirements.”

Both the WVSSA and the WCBSC maintain cropping maps. The WVSSA maps for isolation of numerous seed crops and WCBSC maps specifically for beet seed crop history.

“Managing production field locations is one of our challenges,” Loberg says. “Another challenge is maintaining confidentiality for our four owner members. While we use the same processes in the field for everyone, the work is confidential.”

For example, activities needed to achieve flowering match (nick) are confidential. Since there is no sugar beet breeding in the Willamette Valley by members of WCBSC, breeders’ experience with new parent lines takes place in local conditions far removed from

Oregon. No production recipes accompany the majority of new parent lines.

“We can manipulate flowering time by clipping either the male sterile (female) or the pollinator (male) plants. We keep a general record of what we do for everybody, but which parent lines are being used and how we handle them are securely stored in password protected online data storage files,” he says.

Seed Selection

Decades ago new cultivars were being developed by public institutions – universities and the USDA. Now private breeders create new varieties. Each year, farmers and the seven sugar processing cooperatives in the United States look at official variety trial (OVT) yield data and select the varieties that will be included in their respective co-op’s approved variety list.

Farmers are most interested in tons of beets per acre and the amount of recoverable sugar per acre, which is an indirect measure of the beet’s sugar content. Beets typically contain 16% to 19% sugar.

“These farmers are like farmers everywhere, they look for the new varieties that they think will make them the most money,” Loberg says. “That may explain why there is such rapid variety turnover. We seldom see the same variety for more than three or four years.”

WCBSC pays its beet seed growers according to a three-tier price structure.

There is a flat per-acre payment, a payment based on pounds of seed per acre, and an incentive payment if weed content standards are achieved. A reasonable yield is 2,500 to 3,000 pounds per acre of male sterile.

“We often have no information about how much seed a new variety will set. In an effort to compete for market share and because development time is so short, breeders focus on sugar production attributes, not flowering characteristics or seed yield. “The per-acre payment provides a financial safety net for low-yielding varieties,” Loberg says.

WCBSC Leadership

Now in its 75th year, WCBSC provides an efficient management system for four competing companies needing sugar beet seed production.

“For example, it is far more efficient for us to contract seasonal labor than for each of them to do their own contracting,” Loberg says. “It is also more effective to have one management team who understands the challenges of this business.”

While Loberg has the title of Manager, he considers himself to be more of a leader. “My first priority is to have every employee work in a way that makes WCBSC look good by delivering quality seed at a fair price. When we look good, our owners look good.”

Joe Funk, editor



Stecklings transplanted into seed production fields. Compare the density of stecks here vs. the seedlings in the nursery beds (top photo p.14)