Leader in Sugarbeet Research...The Great Western Agricultural Research Center, Longmont, Colorado

"Our agricultural research work is aimed at one principal objective: specifically, helping growers make more money growing sugarbeets."

Dr. Kenneth P. Dubrovin
Director
Agricultural Research Center
The Great Western Sugar Company

Research progress has been chiefly responsible for the blossoming of sugarbeets as a cash crop that provides stable and consistently high earnings for growers. Today, sugarbeets are competitive with any other farm enterprise as an income producer. For instance, slightly more than three decades ago, yields barely averaged twelve tons per acre. Today, the average is near twenty tons and many fields are in the 20 to 30 tons range. But yields are only a part of the progress story. Weed and insect control, fertilization practices and irrigation techniques have all shown marked improvement. Research has helped justify large capital investments in field machinery, and that is the backbone of our highly competitive and mechanized sugarbeet industry today. In a true sense, research is geared toward making production easier for the grower and helping him make more money from his product.

Nitrogen and Quality

Improving the quality of sugarbeets—that is, sugar content and purity—is basic to all of the research done at the GW Agricultural Research Center. One of the most important influences on quality is the amount of nitrogen available to the beets. Proper amounts are needed. If excessive nitrogen is present in a sugarbeet field, it can cost the grower much more than just application and material costs because of its very detrimental effect on sugar content and purity. A program of deep soil tests is being conducted to check for substantial amounts of nitrate nitrogen in the lower soil levels. Deep nitrogen deposits are available to sugarbeets whose root systems can extend to a depth of eight feet or more. The practice of testing only the top one foot does not reveal the presence of nitrogen at lower levels, so it is recommended that a deep soil probe be made in all fields, but especially in those which have a chronic low sugar content problem.

Herbicides

Great Western's Agricultural Research Center places a high priority on herbicide research, and has had an extensive program for many years. Studies include evaluation of new, untried chemicals plus a search for ways to make older chemicals more effective and easier to use. Field studies are made throughout the entire area where Great Western produces sugar. Importantly, final testing work is accomplished with the help of cooperating growers, right in their own fields. Research is not limited to checking effects on weeds and sugarbeets. Soil and plant residues, chemical cost and ease of application are extremely important considerations too. Further, herbicide research has shown a complete program of pre-plant or pre-emergent herbicide followed by post-plant (post-emergence and/or lay-by) can eliminate the need for hand weeding.

Insecticides

The wide range of insect species presenting a constant threat to sugarbeet crops requires constant alertness and continuing research. Insecticide testing not only considers effectiveness of new chemicals, but costs, residual effects and potential crop injury as well. As with herbicide research, studies are concerned with local conditions and tests are carried out in cooperation with growers throughout the Great Western area. Furthermore, a watchful eye is kept for the possible development of insect resistance, which may reduce the effective life of an insecticide to just a few years. Our researchers maintain contact with leading chemical companies throughout the world to assure our growers access to the latest and most effective insecticides available.

Nematodes

Research on nematode control is intense. The reason is simple—yield and quality are seriously affected by nematodes. Although fumigation gives excellent results, researchers are dedicated to finding easier and cheaper methods of control or a means of eradication. Present methods of nematology control by fumigation will almost certainly bring returns to the sugarbeet grower in excess of the cost of control. Today, growers in Nebraska and Colorado are almost universally troubled by nematodes, and fumigation is required now. Although growers in Wyoming, Montana and Kansas have largely escaped this problem, sooner or later it will probably appear. Fortunately, results of current research will be ready to help growers in those areas when and if it does.

Seed Technology

Continuing seed research is directed towards the ultimate achievement of planting-to-stand. And, although much has been accomplished with the development of high quality seed such as MONO-HY, continuing research is necessary to get even higher germination rates and even better seed quality. Research programs aimed at the development of practical planting-to-stand methods dwell heavily on the reduction of costs by eliminating labor. Pelleted seed is useful to many growers, and the new, highly visible colored seed has been a boon to accurate seed placement.

Storage

Although it does not pertain directly to agricultural production, pile storage is another aspect of research considered a major project at the Agricultural Research Center. Specifically, we are looking for ways to eliminate the loss of sugar that occurs during storage of the crop after harvest and before it is processed. Beet storage involves a variety of conditions and tests are carried out in cooperation with growers throughout the Great Western area. Further, after harvest, the crop is kept for the possible development of insect resistance, which may reduce the effective life of an insecticide to just a few years. Our researchers maintain contact with leading chemical companies throughout the world to assure our growers access to the latest and most effective insecticides available.

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