

**A LITTLE BIT COUNTRY
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Crop Variety Identification Technology Available

It seems like just a few years ago when the only method of identifying a crop variety was to have a very experienced agronomist take a look at the seed and hope he was right. However in today's world, technology is available which identifies varieties of certain crops. In fact, variety identification is now a certification requirement for spring wheat, field pea and all barley beginning in 2010.

Spring wheat certification samples are tested using wheat seed protein and polyacrylamide gel electrophoresis (PAGE). This test is able to differentiate spring wheat varieties from each other based on a specific seed protein banding pattern. Barley and field pea certification samples are tested utilizing seed DNA. This test uses PCR (polymerase chain reaction) in combination with specific markers to identify the correct variety. According to Jeff Prischmann, Diagnostic Lab Manager of the State Seed Department, this test is also very specific and is able to distinguish barley and field pea varieties from one another.

I don't think there has been a problem in maintaining variety identification over the years, but this technology and move to test for variety purity just provides another level of quality assurance for both the seed growers and buyer.

Variety I.D. testing is also conducted on the mentioned crops in addition to act as a service test. The fee for wheat and oat variety identification using the protein electrophoresis method is \$82 while the DNA test for barley and field pea is \$121.

Weed of the Year

During the recent pesticide certification training meeting we learned from Dr. Richard Zollinger, Weed Scientist with the North Dakota State University Extension Service, that common ragweed has received the distinction of being named Weed of the Year. The reason for this honor is because a majority of the common ragweed populations in North Dakota and Minnesota contain some frequency of biotypes resistant to ALS-inhibiting herbicides.

Common ragweed has a long history of being a troublesome weed throughout North Dakota. As a 4-H member, it was among nearly 40 weeds we needed to identify in crop judging contests. What I didn't learn back then was its ability to produce seeds. The 2011 North Dakota Weed Control Guide states that one plant can produce up to 64,000 seeds and the seeds can stay dormant in the soil for many years. In fact, the seed requires a dormant period before it can germinate. A combination of light and temperature trigger the germination process. It usually emerges early in the season and continues to emerge until hot temperatures halt germination. Crop loss is the greatest when common ragweed emerges at the same time as the crop and ragweed density increases. However, if plants emerge three to four weeks after crop emergence, crop yield losses can be minimal.

Common ragweed is most effectively controlled with a combination of pre followed by post emergent herbicides. Research indicates that maximum glyphosate activity is usually achieved when common ragweed plants are less than one inch in height, including low-level glyphosate-resistant biotypes.

Common ragweed is a weed to watch. Its resistance to glyphosate has become a serious problem in eastern North Dakota and western Minnesota.