

## New Varieties Take Time

The release of a new variety is the culmination of years of research, testing and plenty of hard work. At the University of Minnesota, plant breeders begin the process by identifying potential parents with desirable attributes which include both agronomic and end use qualities. Yield is always important but other agronomic traits like disease and pest resistance, standability, and maturity are considered. Breeders also consider quality factors such as protein, test weight and potential end uses like bread baking or beer brewing. The resulting progeny from a cross begins the nearly decade long process to becoming a variety.

The number of crosses made and lines tested in a given year varies between the barley, soybean, turf grass, wheat and wild rice breeding programs at the University of Minnesota. Dr. Jim Anderson's wheat breeding team will make 300 crosses in a year and it will take a minimum of 8 years before the progeny selected is ready to release as a variety. To reduce the number of years for a variety release, breeding programs utilize greenhouses and winter nurseries to multiply early generations.

By the time 50-100 pounds of breeder seed is turned over to the MCIA Foundation seed program, thousands of new lines have been evaluated. This evaluation process takes place in the lab and the field. Laboratory work includes the use of marker assisted selection.

Dr. Jim Anderson explained, "Marker-assisted selection gives us a head start, helping us track important genes and enabling us to select parents that carry a particular gene". Genes that influence bread making quality and provide scab resistance are sought because these traits are controlled by a small number of genes. For instance a single gene may provide 20-30% of the scab resistance in a new wheat line.

Lab technology is becoming faster and more predictive; the use of bioinformatics and robotics along with knowledge of the crops genome sequence will allow researchers to analyze thousands of DNA markers at a time. Anderson's team is currently testing a genomic selection process that is based on DNA sequencing. This process will provide predictive information which will enable them to make better selections for desired traits.

New technology helps in the selection process but years of field trials are still needed. The most promising lines are advanced



*Ron Rubin of Brawley, California and Roger Wippler MCIA Foundation Seed, stand in a winter increase of MN08165-8, a new Minnesota wheat line.*

each year. For wheat, over 500 new lines are entered into trials each year. Up to an additional 300 lines are advanced from other trials for further testing.

Field trials are conducted across numerous state and regional locations providing a wide range of environments to evaluate new lines. Eventually, the best new lines in a breeding program are placed in trials comparing them to many known varieties. These variety trials are conducted over a 3 year period at up to 15 locations.

Additional quality testing is often needed before a variety is released. The American Malting Barley Association and its members, evaluate barley varieties for their suitability for the brewing industry. Experimental wheat lines are evaluated for milling and baking qualities through the Wheat Quality Council. The National Turf Evaluation Program conducts research on turf grass varieties assessing traits such as turf quality, color, density, disease resistance and cold tolerance. While soybean and wild rice lines are evaluated for suitability as food products.

Late in the evaluation process the breeder makes a proposal for increase to the University of Minnesota Crop Variety Review Committee (CVRC). The CVRC is made up of plant breeders, extension agronomists, plant pathologists and representatives from

# New Varieties Take Time Continued

*Ed Schiefelbein of the barley breeding project harvests one of 1400 barley plots on the St. Paul Campus*



MCIA. The CVRC reviews data and approves seed increases and procedures such as an overwinter multiplication.

Overwinter increases have been utilized in the past for barley and wheat lines to cut one year from the development process. The MCIA Foundation seed program works closely with the plant breeders and will coordinate the increase in southern California where the seed is planted in November and returned to Minnesota in May.

The new line will be increased with Minnesota growers with intent to release to MCIA members. Later that year, the CVRC will meet again, review the data and if there is merit recommend the new variety for release.

The CVRC will also select a name and identify any particular licensing requirements or the need to obtain Plant Variety

Protection (PVP) for the new release. This recommendation is forwarded to the Director of the Minnesota Agricultural Experiment Station for final approval and official release.

Following the official release, MCIA will distribute Foundation seed to eligible members. Another year will pass before the new variety is available to farmers for planting.

Overall the process to develop a new variety may take up to 10 years and anywhere along the way, an agronomic or quality flaw could cause the line to be dropped.

Advancements in technology allow progress to be made more quickly but field trials and seed increases still take time. For over 100 years, the University of Minnesota has invested in the research, testing and hard work necessary to bring new and improved varieties to producers and end users.

## South Dakota Royalty Rate Change

South Dakota State University (SDSU) and The South Dakota Crop Improvement Association (SDCIA) recently announced that royalty rates for SDSU varieties will increase. Beginning July 1st, 2015 the royalty rates for SDSU spring and winter wheat varieties will be \$0.60 per bushel, and oat varieties will be \$0.30 per bushel and rates for soybeans will remain the same at \$0.50 per bushel.

The rate change includes all previously released royalty bearing SDSU varieties. All seed sold after July 1st, 2015 regardless if it is carryover seed or new crop will be assessed at the new rate. A summary of the SDSU varieties affected and new royalty rates can be found on the MCIA website at [www.mncia.org](http://www.mncia.org).

## News and Notes



The National Organic Program (NOP) auditors were just in town completing MCIA Organic's semi-annual accreditation audit. They randomly reviewed 10 files and reviewed 10 files with non-compliances, suspensions or surrenders, looked at our Materials Review process, and accompanied our inspector on an unannounced

inspection. We want to thank Urban Organics, our first certified aquaponics operation, for cooperating in this inspection.

At the end of the week the auditors wrapped up by saying we were doing a good job. The biggest criticism they had was regarding our timeliness which they felt was due to lack of staff. Since we were in the process of hiring a new staff person to help with the organic program, we felt that was a fair criticism.

We have added Alan Makinen, formerly of The Wedge Co-op to our staff. He will be working with the organic and other MCIA programs. He is starting by creating a materials database for our program and by assisting with our administrative duties.

The end of the crop inspection season is just about in sight. We had many new clients this year and it was a bit of a challenge to find inspectors who were available when and where we needed. We did work with a couple of new inspectors this year which helped. Next year we plan to mail out our renewal

applications a little earlier and we will be asking you to return them a little earlier. Changes will be made to the field history forms so you can enter what you plan to grow. Later you can send in what you actually planted or give that information to the inspector. This year we had fewer people ask us to send in certification information to their crop insurance agents, but it was still a challenging year for many.

The cost share reimbursement program is back and is being administered by the state departments of agriculture. You can apply for a refund of 75% of certification costs paid up to \$750. These will be costs incurred/paid during the federal fiscal year: October 1, 2013 to September 30, 2014. You can apply for each scope (producer, livestock, processor/handler, or wild crop) to which you are certified. Minnesota operators have been sent a letter with the application form and W-9 that must be sent to the Minnesota Department of Ag (MDA). MCIA will send copies of itemized invoices directly to MDA, so you don't need to send those. For those in other states, MCIA will be sending you letters letting you know where to apply for the cost share program in your state.

I hate to mention winter conferences, but the first one will be the Iowa Organic Conference on November 16-17 at the University of Iowa Memorial Union in Iowa City. Save Jan. 9-10, 2015 for the Minnesota Organic Conference in St. Cloud and Feb. 26-28 for the MOSES Organic Farm Conference in La Crosse.

### MCIA Hires New Documentation Specialist

In September, Alan Makinen joined MCIA's Administrative staff as Documentation Specialist. Alan comes to MCIA after a decade of work in the food co-op sector. Most recently, he served as the Wedge Community Co-op's Organic Certification and Sustainability Coordinator. Alan's credentials include Master Recycler Composter and LEED Green Associate. He also holds an MFA in Painting and Drawing from the School of the Art Institute of Chicago. Alan lives in Richfield, where he and his family tend an organic garden of their own, growing apples, berries, herbs, and vegetables.





## Chairman's View

Duane Dahlman, Board Chair

### Safety in the Work Place



"Working safely may get old, but so do those who practice it". Author Unknown

Each year the company that insures our company, Dahlman Farms Inc., does a walk around the seed house, drying plant, office, and the shop. During this evaluation, they write down the safety practices and procedures that we are excelling at and also those that may need some modifications. This has been a most helpful tool for the prevention of potential injury to employees, along with associated costs to the employer.

I am focused on this issue now as we are in full swing with our seed corn harvest and many of you have begun your fall season. It is a time of long hours with less sleep and many times it just might be easier to skip a step or two in the process of doing a job. This however will come back to haunt you when machines malfunction. You then attempt to do the quick and easy fix just to get by. I will admit I have been guilty of this more often than I would like. It was interesting when we had our safety meeting that the one item that really stuck with our employees was the quote "there is always time to get a forklift". This in itself will take an extra minute or two but if it saves one back injury it is well worth it.

Falls, lifting injuries, and fires are dangerous and more common than one realizes in the workplace, but that is just the beginning. There are many possible safety issues that occur at your business location or farm setting. Often, the best workplace safety arises out of simple and strategic planning and smart thinking. It makes no difference how big or small your business may be, there is no excuse for not making workplace safety a priority.

If you do not have a safety plan in place at your business, there are four simple guidelines to use to recognize a potential work place hazard.

1. Make sure you notify everyone in the workplace of the problem.
2. Notify your boss or supervisor.
3. File any reports that are required.
4. Follow-up.

In the end, workplace safety is the responsibility of everyone. Each person has a part to play in keeping the workplace safe and free from unnecessary dangers or risks. By using common sense and clear thinking you will do your part in keeping the risk of injuries low for yourself as well as the health of your company. It is a team effort to do the right thing. Wishing each and every one of you a bountiful and safe harvest season!

### Board of Director Nominations

Nominations are open for the MCIA Board of Directors. The following seats are open:

Duane Dahlman, District 3; Jay Miller, Related Industry and Mike Zabel, District 3. Jay and Mike are eligible to serve another term.

Send all nominations to: MCIA, 1900 Hendon Ave, St. Paul, MN 55108 or email [ben.lang@mncia.org](mailto:ben.lang@mncia.org).

### Help Recognize a Deserving MCIA Member!

MCIA members are invited to nominate individuals for the Achievement in Crop Improvement Award and the Premier and Honorary Premier Seedsman Awards.

Not sure of the criteria or if someone has previously been recognized?

Contact Roger Wippler at the MCIA office for more information.

## Marketing High Quality Seed



This summer I had the opportunity to attend several field days where new varieties were being showcased prior to being introduced to the market place. After nearly 35 years of working in this industry I can't help but be impressed by the quality of the new variety introductions and

the improvements that continue to be made in field crop varieties. Improved varieties don't just happen - they are the result of significant investments in breeding programs that bring together genetics with the best characteristics from all over the world. The funds that support these breeding efforts come from many sources but primarily from seed sales.

Expanding the use of improved crop varieties was a consideration this summer as we worked to resolve an issue related to marketing seed mixes which include varieties protected under Title V of the Plant Variety Protection Act (PVPA). MCIA worked with the Minnesota Department of Agriculture to develop a set of guidelines for utilizing PVP - Title V protected varieties in seed mixes.

There is a rapidly growing demand for seed mixes especially for cover crops, forages and other uses. To get a quality seed mix you need to use quality components and often the best component is a PVP protected variety. The guidelines provide clarification that PVP Title V varieties can be used in a seed mix, as long as the labeler uses seed from a certified seed

lot and has permission from the PVP certificate holder (the variety owner).

We have made this guidance document available on the MCIA website [www.mncia.org](http://www.mncia.org). We are also offering PVP certificate holders the opportunity to post letters granting permission to use their varieties in seed mixes on our website. A seed labeler can download the permission letter and retain it in their files to document the required permission and satisfy seed law requirements.

The labeler will also need to retain proof (in the form of a certification label or bulk certificate) that the PVP - Title V variety in the mix came from a certified seed lot. Using seed from a certified seed lot not only ensures the identity and quality of the seed, it ensures that the royalties collected in the certification process are returned to the variety owner supporting more research and variety development.

MCIA supports the use of quality seed and the protection of the intellectual property rights of those that develop and introduce new varieties. MCIA is a supporter of the Farmers Yield Initiative - an effort to promote the legal way of doing business in the seed industry and to educate farmers on PVP and the benefits of using certified seed. All of agriculture benefits when we protect the efforts of variety developers and others who invest in seed research. Since 1903 MCIA has supported the marketing of high quality seed and we will continue to seek ways to support those that bring those products to agriculture.

### Annual Meeting Notice

The 2015 Annual Meeting, will take place Tuesday and Wednesday, January 13-14, at the Bigwood Event Center in Fergus Falls.

Mark your calendars and plan to attend!

Contact Ben Lang at MCIA if you have agenda items that should be addressed at the Annual Meeting.

### Early Call for Resolutions

A draft of any resolution to be considered by the MCIA Legislative and Public Affairs Committee and forwarded to the floor of the annual meeting should be received by MCIA 14 days prior to the meeting.

Please contact Ben Lang if you have a resolution that should be considered.



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I certify that the statements made above are correct and complete. - *Janet Daninger*



Since 1903

## CALENDAR

### November

- 9-10 ..... Farm & Lawn Seed Conference, Kansas City, MO
- 16-17 ..... Iowa Organic Conference, Iowa City, IA
- 21 ..... MCIA Board Meeting, St. Paul
- 27-28 ..... MCIA office closed for Thanksgiving Holiday

### December

- 8-12 ..... ASTA Seed Expo, Chicago, IL
- 10-11 ..... Prairie Grains Conference, Grand Forks, ND
- 24-26 ..... MCIA office closed for Christmas Holiday

### January

- 1 ..... MCIA office closed for New Year’s Day
- 9-10 ..... MN Organic Conference, St. Cloud
- 13-14 ..... MCIA Annual Meeting, Fergus Falls
- 19 ..... MCIA office closed for Martin Luther King Day
- 22-24 ..... NPSAS Ag Conference, Aberdeen, SD
- 28-30 ..... MN Ag Expo, Mankato

See the MCIA website [www.mncia.org](http://www.mncia.org) for more upcoming events.