CERTIFIED SEED GLEANINGS

Utah Crop Improvement Association Room 320, AgSci Bldg., Utah State University (435) 797-2082
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2011
ANNUAL SEED SCHOOL AND SEED INDUSTRY MEETINGS

The Utah Crop Improvement Association and Utah Seed Council will host the Utah Seed Industry on Friday, Feb. 25, 2011 in Brigham City, UT. We will meet at the Bridgerland Applied Technology College on 1100 South (main access road from I-15 to Hwy 89/91 and Logan) in conference room 103, starting at 8:30 a.m., with light refreshments. *See next page for complete program.* **PLEASE RSVP USING THE COUPON ON THE SECOND PAGE.**

USU SMALL GRAINS PROGRAM UPDATE

David Hole, PSC Department, USU, explained that the former barley breeder, Dominique Roche, did not win tenure and has finished his appointment at USU. Also, Shyrl Clawson, long-time research associate on the wheat project retired. So that leaves David and Justin Clawson to run both the wheat and barley breeding programs. However, barley development can be accelerated by gaining another growing season in New Zealand, where David spent a sabbatical a few years ago working with the small grains breeders. The growing conditions are different there, but evaluation of resistance to diseases such as stripe rust can be actually more efficient. While planting the fall nurseries and spring nurseries in Utah is not a problem with one researcher and one technician, the bottleneck comes at evaluation and harvest time for all the nurseries in late summer. Maintaining the small grains program at its current level may not be possible.

David discussed several small grains breeding lines and varieties that are at various stages of development. A grain triticale line has been in the trials for several years that could be released as a public variety alternative to Bogo, yielding only slightly less in performance trials. UT9743-42 is a hard-red winter irrigated wheat that has stripe rust resistance, higher yield, and better quality than Garland, and should be ready for release later this year. There are a couple of soft white winter lines that look very good, one from Idaho and one from the Utah program; both have susceptibility to dwarf bunt, but that isn't a huge problem on irrigated lands. UT9325-55, proposed name Curlew, is slated to be released in time for fall planting. It has similar quality and yield to Deloris, but has resistance to stripe rust and the newest race of dwarf bunt. UT10322 is the Imazamox herbicide tolerant line that is in the process of licensing agreements with BASF and USU Technology Commercialization Office. Chris Allen has seed stocks of this line, so it is imperative to get it cleared for planting this fall; the proposed name is Lucin CL. This will be probably be the last single gene herbicide tolerant variety that BASF will allow; David has two-gene lines that look promising but are still a few years off. DNA testing is required to confirm two-gene vs. one-gene herbicide tolerance, which slows down evaluation of large populations.

A couple of winter feed barleys in the program look promising, but the future may be in malting barleys; David has made crosses with some of Pat Hayes' lines from Oregon and the malting quality looks good. Malting barleys in this area may be a possibility since there is less of a problem with mycotoxins (that can cause toxicity in the grain product) in our climate than in the Midwest. The spring barley program results have been compromised due to problems in the nurseries for various reasons, but Goldeneye still seems to be the standard to measure up to.

The Utah Crop Improvement Association ***CERTIFIED SEED GLEANINGS*** is published periodically to promote the production of high quality seed.

EDITOR: Dr. Stanford A. Young, Utah Agricultural Expt. Station Seed Certification Specialist, and Secretary-Manager, Utah Crop Improvement Association.

UTAH SEED INDUSTRY

SEED SCHOOL AND ANNUAL MEETINGS

Sponsored by Utah Seed Council and Utah Crop Improvement Association

Bridgerland Applied Technology College, Conference Room 103
325 West 1100 South, Brigham City, UT
Friday, Feb. 25, 2011, 8:30 am to 2:45 pm

8:30 a.m. Pre-Meeting Social – Light Refreshments

9:00 a.m. Welcome – Bruce Hubbard, President, Utah Seed Council
Meeting Chairman: Curtis Marble, Vice-President, UCIA

9:05 a.m. "A Half Century of Drill Box Surveys", and "Compost Effects on Dryland Wheat Production" – Earl Creech, Extension Agronomist, USU, Logan UT

9:35 a.m. "New Forage Kochia Releases: Opportunities and Implications for the Seed Industry" – Blair Waldron, USDA/ARS/FRRL, Logan UT

10:05 a.m. "Agriculture and Reclamation: The French Connection" – Stanford Young, UCIA, USU, Logan UT

10:40 a.m. Break – Light Refreshments

11:00 a.m. "2010 Variety Releases and Test Plot Results for New USU Wheat and Barley Materials" – Michael Bouck, UCIA, USU, Logan UT

11:20 a.m. UCIA Business Meeting -- Chair: Chris Allen, President, UCIA

11:50 a.m. Utah Seed Council Business Meeting -- Chair: Bruce Hubbard, President, USC

A. General Reports
   1) Utah Seed Dealers
   2) Utah Department of Agriculture and Food
   3) Utah Agricultural Experiment Station
   4) USU Extension
   5) UCIA

12:30 p.m. LUNCHEON – Hosted by UCIA and USC at Maddox Ranch House Restaurant, Perry UT (RSVP Please)

1:45 p.m. USC Business Meeting (continued)

B. Update from Reclamation Segment
C. Update from Agronomic Segment
D. Update from Public Agency Associates
E. Other Items (see Proposed Agenda)
F. Election of President Elect

2:45 p.m. Adjourn

David had an opportunity to visit wheat breeding programs and some of the wheat production areas in China. In areas of the Loess Plateau in north-central China they plant a facultative spring wheat after maize harvest; it grows over the winter and is harvested in time to put in the summer maize crop. Much of these crops are still planted and harvested by hand. In the Shandong province in southern China, about 60% of China's wheat is grown and they have a large winter wheat research program with modern equipment. David also went to Thailand and Cambodia where wheat is pretty much not adapted, and rice is king. At one small acre size farm in Cambodia, the farmer makes a very good living (about $3000 US per year) by growing two rice crops a year, and also has a ¼ acre water reservoir, where he grows fish, eels, frogs and on the levee grows vegetables (including a morning-glory-type salad plant).

In response to a question about snow mold, David responded that two ways to avoid the problem are to plant early to get large, vigorous plants, or to plant late so there is not much foliage at all. Ash can be used to melt snow off faster where there is a history of severe snow mold. In most areas, it is important to be patient and wait 14-21 days to see if the plants start greening up and growing again. You will be better off if they eventually recover than if you become inpatient and replant the field with spring grain.

NEW PLANT MATERIALS FROM THE FRRL

Kevin Jensen, plant breeder and geneticist at the USDA/ARS Forage and Range Lab at USU first explained the overall mission of the FRRL. It is to provide adapted and useful plant materials for disturbed rangeland due to fire, mining, overgrazing, military site use, etc. The FRRL scientists have done an analysis at 20 reclamation sites from North Dakota westward to see what plant materials are successful in establishing and persisting so that invasive weeds don't take over. Using crested wheatgrass as a standard, at over 12" rainfall several native and introduced grasses established and persisted as well. At less than 12" rainfall, only Siberian wheatgrass established as well or better, and native western wheatgrass, while not establishing as well, does persist and expand due to extensive rhizomes.

Kevin summarized some of the new materials that have been released from the FRRL in recent years. Vavilov II is a Siberian wheatgrass with improved establishment and persistence as compared with Vavilov, (which replaced the old standard, P27, for which Foundation seed production has been discontinued), and successfully competes with cheatgrass. Siberian wheatgrass generally does better than crested wheatgrass in dry, light textured soil sites. Hycrest II crested wheatgrass was recently released (with better establishment and leafiness) as a replacement to Hycrest, (which has been extremely popular since it was released in the mid 1980's). Russian wildrye is the most drought and saline tolerant grass for reclamation and can grow in 6" precipitation areas if you can get it established. Bozoiski II Russian wildrye, released in 2005 with improved seedling establishment, replaces Bozoiski Select (released in the mid 1980's) which in turn replaced the old varieties Vinyll and Swift. Altai wildrye fill a niche for ranchers where a tall winter forage is desired. Altai recovers after cutting much better than native basin wildrye. The Altai wildrye variety Mustang was recently released by FRRL, and has at least 20% better stand establishment than older varieties such as Prairieland.

Some of the native species that FRRL scientists have been working with include Snake River wheatgrass, which is a drought tolerant bunchgrass similar to bluebunch wheatgrass, both types of grasses being relatively hard to establish and grazing intolerant. The variety Discovery was recently released, which shows increased establishment ability in Northern Utah plots.

Slender wheatgrass is a quick establishing short-lived grass that has great utility in reclamation seedings for quick cover. First Strike is a recently released FRRL variety composed of two selections from Colorado and two from Wyoming. It was developed as a result of a U.S. Army study to establish vegetative cover after tank traffic. First Strike has much improved establishing ability over older varieties Pryor and San Louis.

Western wheatgrass is hard to establish, as mentioned earlier, but is extremely persistent, with quackgrass-like rhizomes. Seed production and seedling vigor have been problems with previous western wheatgrass varieties in the market such as Arriba and Rosana, but the recently released FRRL variety Recovery improves both of these aspects. Basin wildrye is a native bunchgrass that is hard to establish, but the FRRL variety Continental is a hybrid between older varieties Magnar and Trailhead. Since the seed is up to 34% heavier, plants appear to establish better.

Indian ricegrass is utilized on rangelands for forage and has salinity tolerance, but is difficult to establish due to seed dormancy and poor seedling vigor. Nezpar and Paloma are older varieties still in use, but the FRRL

release Rimrock has taken over a large portion of the market since it retains seed in the heads and is therefore much easier to produce and harvest. A new FRRL release White River originates from the Colorado Plateau but shows good seedling vigor in a broad geographic area. Bottlebrush squirreltail is a short-lived successional grass that establishes well, but is not a good forage grass due to its long awns. Several squirreltail selections from various areas of the Intermountain West have been released by the FRRL.

Work with these native grasses demonstrates that selection for improved characteristics can be successful in native species, to the point of competing successfully with introduced species. The FRRL also has released grasses for use in irrigated pastures. Cache meadow brome (released about five years ago) does extremely well in pastures with natural precipitation as low as 14-16", greatly improving performance over the older varieties Regar and Paddock. It has less aggressive rhizomes than smooth brome so doesn't get rootbound, yields much more forage, and recovers from grazing quicker than smooth brome. Meadow brome will green up three weeks earlier than orchardgrass and tall fescue, and is also much more winter hardy than these grasses.

SMALL GRAINS FOR FORAGE

Michael Bouck, UCIA, USU, explained that some of the aspects involved in small grains forage are the time of planting (fall vs. spring; winter hardiness is important), moisture and fertility available, maturity when harvested (boot stage for hay, soft dough stage for green chop or silage), and species mix (wheat, barley, or triticale alone or in various combinations). Selecting the right varieties is extremely important, and by choosing certified seed you can be assured that the seed in the bag is the variety as labeled.

An aid to determining harvest maturity is the Zadok's scale, which gives a numerical rating to specific wheat and other small grains growth stages, e.g., a stage of 7.3 means that the kernel is mostly watery, but starting to turn white (early milk stage); 8.3 is when the kernel is mostly solidified but still sticky (soft dough).

Another important aspect to using small grains for forage is the awns on the heads. Long, stiff awns are not desirable when making hay because of unpalatability to cattle. This is the reason that the awnletted (awns absent or very short) "off types" in Schuyler winter barley are of interest, and the basis for setting up the research trials at Logan and Kaysville in the fall of 2008. Other plant materials in the trials included Hoody, a "hooded" (soft, fleshy awns) variety, awnless varieties Hayes barley, Brundage wheat, and Trical 103 triticale, and two hooded breeding lines from Pat Hayes in Oregon. Hoody and Hayes are considered spring varieties that are sometimes planted in the fall in more temperate climates, Brundage and Trical 103 are considered winter varieties, and the breeding lines are similar to Hoody and Hayes in hardiness.

Data indicated that the beardless (awnletted) Schuyler was the top yielder in forage at Logan, while Hayes was the top yielder at Kaysville with beardless Schuyler second. All varieties/breeding lines survived 2008-2009 winter conditions just fine. Plots were established in the fall of 2009 at Logan, Gunnison, and Snowville to obtain more data to find out if the beardless Schuyler should be released as a variety. It is planned to harvest the plots at both hay stage (in the boot) and at soft dough, and also to do nutritional testing to see how the varieties and lines compare.

RSVP PLEASE

Please complete this coupon and send in an envelope or call (435) 797-2233, or fax (435) 797-0642, or email (keren.williams@usu.edu) if you plan to attend the Seed School so we can make arrangements for the luncheon.

I (we) will be attending the UCIA/USC Seed School meeting at Brigham City, UT on Friday, Feb. 25, 2011.

Number of people attending luncheon _____

Name(s): _____

Company/Farm/Agency: _____

_____

UCIA OFFICERS & DIRECTORS

Directors elected by mail nomination and ballot, as directed by the Membership through By-Laws revision at the 2009 Annual Meeting (Feb. 25, 2009) were: ***District 1: Chris Allen, Cove. District 2: Alan Mitchell, Vernon; Jason Rhodes, Ephraim.***

UCIA members have received nomination ballots for three vacancies in District 1 (Utah north of I-80) and one vacancy in District 2 (Utah south of I-80).

Officers elected at the Board of Directors Meeting Dec. 8, 2010 in SLC were:
President: Chris Allen, Cove; Vice-President: Curtis Marble, Corinne; Exec. Committee: Ron Stevenson, Ephraim

NOTE: It has come to the attention of UCIA that there have been instances where certified seed lots have been sent out without certified tags, or the wrong tags for the lot were attached. In order to help prevent these problems, the following NOTICE will be sent with each shipment of certification tags. Recipients of certification tags have the responsibility to utilize them properly.

Utah Crop Improvement Association / 4855 Old Main Hill / Logan, UT 84322-4855
Ph. 435-797-2082 / Fax 435-797-0642

NOTICE

By ordering these certified seed tags, your seed company has become accountable for their use. By following the rules below, the genetic identity of the seed will be maintained, and the overall integrity of the certified seed program will be held to the highest standard.

CERTIFIED SEED TAGGING RULES

- **Before certified (either variety or pre-variety germplasm) seed is distributed (defined as leaving the premises of the party ordering the tags) to end users or wholesale destinations, THESE TAGS MUST BE PROPERLY ATTACHED. This means that a certified tag must be stapled or sewn to each bag of the seed lot when distributed. For bulk shipments, a certified tag or bulk certificate must be attached to the bulk container, payment receipt, or bill of lading.**
- **The SEED LOT NUMBER printed on these tags must be the same as the seed lot number (stenciled or otherwise written) on the matching bags or bulk container.**
- **A UCIA representative will periodically visit your seed company and MATCH THE INVENTORIES of certified seed lot(s) with the tags you have on hand which were ordered for those lots.**
- **Improper use of certified tags or failure to attach them appropriately before distribution may lead to revoking of UCIA membership privileges.**
- **"Fastmail" cost (any tag shipment requested to be sent other than USPS first class or UPS Ground, whichever is cheaper) will be added to tagging fees when billed.**