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Tri State Seed Co Newsletter May 2016

William Feather is quoted as saying, "The happiest people are those who are too busy to notice whether they are or not." I think that statement pretty much fits most farmers I know, especially this time of the year. I haven't met many really sour apples yet; most farmers are happy. We have a good reason to be happy this spring, Mother Nature just succeeded in pulling off some kind of turn around when you consider last spring. The soil tests on our farm show we have more moisture this year in the top four feet of soil than since 1995. That is an average of course but still surprising to us. That cheery note comes with a real concern though; will it be enough moisture to finish the crop? The winter we had was quite mild. We started spring 30 growing degree days ahead of last year, which was a record in modernity. The resulting growth of our crop this spring is truly phenomenal. That is my concern for the dryland farmers in our area. The vegetative growth is way ahead of the water available to finish the crop. Our collective hope is that cool weather persists for a while and timely rains come sooner rather than later. Yogi Berra said, "It's not over till it's over." A lot can happen to this crop yet.

Our newsletter is organized by topic, so just peruse the topics and pick the ones that have some relevancy to your particular operation. I will include topics for both irrigated clients and dryland operators.

Rust Update from Various Sources

This next update is from **Juliet Marshall Ph.D**, cereal pathologist and agronomist with the University of Idaho. Just as a side note, Juliet is the first person to my knowledge to document the shift in the causal organisms resulting in the spread of Fusarium Head Blight or Scab as we know it, last year in Idaho. She has compiled several comments from recognized industry sources we should take to heart in our fight against stripe rust – and does it with a light hearted prose. After reading her approach to a serious problem, you will understand why I like her!

<https://en.wikipedia.org/wiki/Robigalia>

The ancient Roman festival of Robigalia was held annually to appease the god of rust (Robigus or Robigo) through sacrifices and feasting, by which they hoped to prevent rust from destroying the upcoming crop.

May the evidence of your victory over the Puccinia be abundant in your fields!

Why am I sending this reminder of the devastating diseases caused by the rust fungi (Puccinia)?

While we no longer sacrifice red dogs (or sheep or goats) to stop stem rust, we battle *Puccinia striiformis*, stripe rust or Yellow Rust, almost every year now. While I am not suggesting you switch to sacrificing YELLOW dogs, however, I am suggesting that you remain vigilant in your battles against the yield-robbing fungi that affect so many wheat varieties.

So Yes, this email is a reminder that stripe rust is continuing to spread in irrigated and dryland crops.

This weather is very conducive to the spread of stripe rust. With susceptible varieties of winter wheat, it is highly recommended that you add fungicides in with the herbicides. But there are legitimate concerns about phytotoxicity associated with tank mixing.

Some general recommendations:

- 1) Application of tank mixes of herbicides and fungicides may result in phytotoxicity when cold (frosty) temperatures follow application. The same applies, more for spring wheat, when hot temperatures follow applications.
- 2) High pressure applications (40 psi) may result in increased phytotoxicity over lower pressure applications (30 psi).
- 3) No additional surfactant should be used when wild oat herbicides (Axial XL, Axial Star, Discover) are mixed with fungicides.
- 4) Bromoxynil herbicides (such as Bronate Advanced, Starane NXT, Maestro Advanced) should not be mixed with strobularin fungicides.
- 5) READ and follow all label directions.

From Kelly Luff of Bayer Crop Science:

Stratego (4-5 oz. rate) can be tank mixed with herbicides, but leave out NIS. (Absolute is not recommended in this market due to potential phytotoxicity. Stratego YLD is not recommended.) Do not spray prior to high risk of frost or freezing temperatures. Optimum performance comes when applications are made when frost isn't occurring for a few days after application. Herbicides mixed with MSO increases burn especially with frost after application.

From Allan Landon of Syngenta:

Quilt, Headline and Twinline can be mixed with herbicides, but do not add surfactants with the mix. Wild oat herbicides (Axial XL, Axial Star or Discover) are higher in risk for phytotoxicity when mixed with these fungicides. (On the label: Twinline demonstrates phytotoxicity when mixed with EC formulated herbicides or insecticides and/or fertilizers.) Actively growing, non-stressed crops fare better than stressed crops. Yellowing may occur, but crop should grow out of the symptoms.

From Joe Yennish of Dow:

Avoid mixing strobularin fungicides with bromoxynil herbicides. Propi-Max fungicide is a propiconazole and can be tank mixed with herbicides.

For Spring wheat:

Choose resistant spring wheat varieties. Susceptible varieties should be protected with fungicides, including at herbicide timing. Scout wheat for stripe rust, even resistant varieties. Changes in stripe rust races will mean that resistance may no longer be effective. Cheers! I'll be drinking red wine tonight, not white (yellow). Here's to controlling rust! Juliet

For Winter Wheat, from Dr. Chen at USDA – ARS located at WSU

Stripe rust has been found in many counties in Washington and is spreading rapidly. So far, stripe rust is widespread in the Pacific Northwest. Weather conditions will continue favoring stripe rust infection and development for next several weeks. The general recommendations are the same as those made in the previous stripe rust updates. Early fungicide application (at the herbicide application time) is necessary for fields planted with susceptible and moderately susceptible varieties. For resistant and moderately resistant varieties, fungicide application may not be needed unless active stripe rust is found in the fields. Second application of fungicides may be needed three to four weeks after the first application when active stripe rust pustules start appearing. For spring wheat, select resistant varieties to plant, if not planted yet; and check fields for stripe rust three weeks after planting. If active stripe rust pustules start appearing, consider using fungicides.

Just a personal note from Dr. Chen – I asked him which product to use for an initial application and he said always use a fungicide with both families of active ingredients first. That is a strobularin and a triconazole both like Quilt or Twinline or similar product. Then if you have to use a second application use the propiconazole like Tilt or generic equivalent.

Stripe Rust in the Country

This is another year of severe stripe rust epidemic in the country. So far, stripe rust has been reported in 16 states: Texas, Oregon, Louisiana, Arkansas, Oklahoma, Washington, Colorado, Kansas, Mississippi, California, Virginia, Montana, South Dakota, Kentucky, Indiana, and Tennessee.

Tri State Customer Appreciation Meeting and BBQ June 9th 2016

Our annual pre-function ahead of the WSU Variety Trial tour in Connell, will be held in Kahlotus at the Grange Hall again this year. Craig is already dreaming up tastier Hor d'oeuvres for your culinary pleasure. If you are of the vegan persuasion you might as well not come because this event is made to order for the meat lover. Craig and I were both raised to eat a balanced diet, one chicken, one fish and one beef each year. All kidding aside, this year's meeting will focus on alternative crops especially grain triticale. We are expecting to have researchers, breeders, marketers and end-users involved in the discussion. Topics covered will range from insurance coverage and new varieties to soil micro-biology, marketing and rotational benefits.

Summer Annual Forages

Timothy – We will have plenty of Aurora this year. I need to be careful about adjectives, because just as soon as I say plenty, we will be sold out. Read between the lines here – let us know your needs early. We will also have Horizon. Horizon is actually been gaining ground on the Aurora in total acres planted and is actually being requested by exporters now. Our advice is to talk to your exporter and ask them what they are looking for and then call us. What we typically do to make the planting process easier for you is to blend the Timothy with some corn grit to bulk the volume up so instead of trying to adjust your drill down to 5 lbs/ac we can add 15 lbs/ac of corn grit and set the drill at 20 lbs/acre to make the process a little less expensive when you do make a calibration error. We also have a good supply of gram scales and a very exacting method of calibration to make the process of setting the drill a snap.

Teff Grass – This is a short season summer annual. There are two primary uses for this grass. One is for the grain content and the other is the forage use. We are focusing on the forage of course. I recently visited one of the wholesale food companies specializing in the grain and was impressed. Teff grain is small and difficult to produce but also gluten free so besides the obvious ethnic cooking market (Ethiopian origins), there is a well-defined food use for the grain. Those of you that are gluten intolerant take note. The forage uses are many. The plant produces a long very fine leaf and is dark green. Not known for its protein content it is perfect for horses and non-ruminants. After planting at about 6 to 8 pounds per acre in soil that is at least 60 degrees F it takes about 35 to 45 days to first cutting and then 35 to 45 days to second cutting. Remember this is a warm season grass and will not survive the first frost of the season. It works well direct seeded into existing residue, just remember to plant shallow, 1/4" deep is perfect. Teff has 1.3 Million seeds per pound so if you can see half the seed on top of the ground when you are done seeding that is good, just pack it and turn the water on. We prefer the variety Pharaoh; it is a red seeded forage type with a proven track record.

Hunter and Winfred Forage Brassicas

Hunter was developed by crossing turnips with related Asiatic leaf vegetables of the same species. The resulting quick growing, leafy turnip with minimal bulb development is best suited to multiple grazing's for summer and early fall feed. Time to grazing is 6 to 8 weeks.

Winfred forage brassica is a cross between a turnip and kale. Winfred is the most versatile brassica being suitable for a wide range of soil fertility and environmental conditions. Maturity is usually 10 to 12 weeks from planting. It has good frost tolerance and can extend grazing into the early winter. Winfred is supported by an aggressive root system which makes it an excellent choice for cover crop options. Both can be seeded with other forage cereals like triticale. I have seen some sunburn on cows that fed exclusively on brassicas for extended periods of time. Make sure to have alternative sources of feed stocks available free choice to buffer the effect of pure brassica.

Sorghum Sudan Grass

These plants are amazing. Last June Michael and I traveled to Hereford, Texas to talk to some of the premier sorghum breeding companies in the country. We toured the seed fields, saw the processing plants, and had long visits with all three breeders. There are three types of sudan products you should be aware of. The standard crosses are Grain Sorghum X Sudan Grass, these are called sorghum sudans. The iterations from this initial cross are the introduction of the BMR (event 6) gene that reduces lignin content (indigestible fiber) in the plant. This increases the utility of the plant's fiber in the rumen. After all, this is what this whole process is about; trying to keep more of the digestible fiber, protein and nutrients inside the animal and have less material to spread on the pasture later. Also sorghum breeders have made certain varieties photoperiod sensitive. This means that the plant will not begin anthesis, which is the seed reproduction phase of development, until the day length is less than 12 hours and 20 minutes. This is important because this delayed maturity process allows multiple cutting or grazing much longer in the season. So let's review – we have the standard sorghum sudan, the BMR sorghum sudan, the PPS sorghum sudan, and yes now the PPS BMR sorghum sudan with the dry stalk gene. These plants contain all the goodies, the BMR genetics for increased total digestibility, the delayed maturity for extended utility, and the dry stalk gene for faster drying and chopping.

Forage Sorghums

Forage Sorghums have many of the attributes of sorghum sudan grass packaged in a plant that you only cut once. Sorghum Sudans need to be trimmed, grazed or cut, every 40-45 days after planting. With forage sorghum, you can select the maturity much like a corn hybrid and just cut everything at once. What this means of course is one cut and 25 tons per acre versus multiple cuts at 4-6 tons per acre. About the longest maturity we can live with in the mid basin is 90 frost free days. Forage sorghums have the BMR genetics, the photoperiod sensitive trait, and they are a phenomenal value. Seeded at 5.35 pounds per acre on 22 or 30 inch rows into 60 degree soils you can achieve 25 tons of silage that is highly digestible. Seed cost per acre is around \$15.00. This is also very cool – the sorghum sudans and the forage sorghums have roughly 1/3 the water requirements of a corn crop. They are also very tolerant to high pH soils and salt tolerant. So, what is the down side? The down side is that if any of these plants get frosted to the point of cell wall disruption on the leaves, the two chemicals in the top two layers of the leaf will produce Prussic Acid. This will tip cows over. The remedy is simple. Get the cows out of the field for about 10 to 14 days and let the prussic acid volatilize off and put the animals back in the field and graze it out. The next major focus of the sudan breeding jockeys in Texas is to breed the Prussic acid out of the plants or at least to a non-toxic level. I also like ice cream on my pie – we will see how this works out.

Let's Talk About Alfalfa and Headline Fungicide (BASF)

One of the things we found most interesting, and profitable last year is this: BASF has a label for alfalfa at a rate of 6 to 9 oz/ac and it looks really promising. The target pathogens here are leaf spots and stem blights. The increased plant health benefits and subsequent increases in yield and feed values make this a no brainer especially on first cutting which tends to be heavy anyway. Have you ever noticed all the leaves at the bottom of the plant that are discolored and falling off just before cutting? Some of this is normal senescence but most of it is fungal damage. Headline is especially effective on spring black stem. Most of the fields we treated this past year were in the south basin and were first year seedling alfalfa. The results were very good. The following numbers and test were conducted from replicated research done by BASF and then in Rupert Idaho in 2013. The measured yield difference was 15.9% on first cutting. On this field that meant .34 tons/ac. If you assume \$220/ton hay, that amounts to \$68.00 return for an investment of about \$25/ac including application. But wait --- The returns just keep coming. Second cutting was 9.4% better than the untreated control and third was 2.4% better than the control and fourth was 4.7% better. The cumulative return on investment was .62 tons/ac in Rupert Idaho over four cuttings. That means an additional \$106.26/ac. This application was applied to 4-6 inch alfalfa before first cutting only. This is important because first cutting is always a big one, and seedling alfalfa is pretty fine stemmed, which all combined means it will be hard to dry down and there is more risk of damage from fungus. Call us and we will send you the pictures and give you the website for more info.

Ample ZSB Chelated Micro-nutrient Foliar

In a year where commodity prices are starting a bit lower than we would like, it is even more important to make good decisions up front. So if you really want to look like a genius this year, go ahead and put on the Headline fungicide we mentioned above and add the Ample ZSB. Ample is a well-balanced micro-nutrient blend designed to supplement the deficiencies normally occurring in alfalfa. I just had two growers from Ritzville come in today and say they planted Trifecta 2 alfalfa, used Headline and micros and cut 9.3 ton/acre. In Ritzville!! Everything tested well also. It does not take rocket science to understand that for every ton of alfalfa removed certain micro-nutrients are also removed, not just Nitrogen, Phosphorus and Sulfur. Here is the list:



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Nitrogen – 51 lbs. Phosphate – 12 lbs. Potassium – 49 lbs. Sulfur- 5.4 lbs.
Magnesium – 4.5 lbs. Calcium – 19 lbs. Copper – 0.01 lbs. Manganese – 0.05 lbs.
Zinc – 0.04 lbs. Boron – 0.05 lbs. Iron – 0.21 lbs.

We recommend applying Ample before first and after second cutting when the alfalfa is 4 – 6 inches tall. The application rate is ½ gallon by ground, ¼ gallon by air, and 1 gallon by chemigation. This program will definitely improve the longevity of your crop. Call us for current pricing – last year's pricing is still in effect. Micro-nutrients don't just appear out of thin air – think about it. If you have any doubts about what I just said, call us and we will take a petiole of your alfalfa just to see where you are deficient. You don't put fertilizer on a crop before you take a soil sample do you? Well, some do... I guess that's our point! And some people wonder why they don't make money.

Release LC Growth Promoter

Last year we promoted this product as an aid to emergence on deep seeded wheat. It is basically a 4% gibberellic acid with an alcohol carrier. In most cases this product works well. The problem is the company that owns the product, Valent, apparently did not do the research necessary to quantify how it reacts on varieties with different semi-dwarfing genes and differential environmental conditions among other things. The response we had with certain varieties was highly variable. After consulting with several PhD breeders and other molecular scientist at WSU we have decided that the risk associated with applications of Release is not something we need to do. There are other products on the market with the same or similar components with a much higher safety quotient. We will be using Seed Vigor; it still has gibberellic acid at a lower concentration along with other seed safeners and growth hormones necessary for growth promotion of young seedlings. I have had years of experience with this product and use it routinely on seed planted on our family farm. It is manufactured locally and the cost is within a few cents of the Release product.

Remember to attend your regional field days. The locations and directions can be found on the website, www.smallgrains.com.

Thanks for your patronage and enjoy the spring.

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