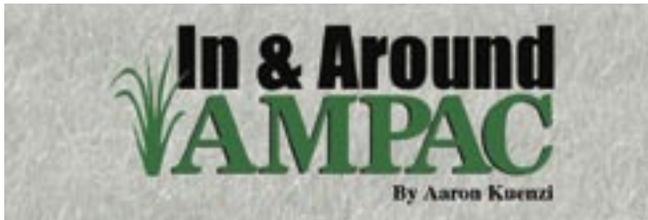


The AMPAC Impact

April 2005

A Quarterly News Publication



If your favorite TV show became the weather channel over the last few months, breath a sigh of relief. We are finally getting some rain. After what has been one of the driest winters on record for the Willamette Valley and the rest of the Northwest, rain has returned. Here are some interesting numbers to consider.

PUBLIC INFORMATION STATEMENT
 NATIONAL WEATHER SERVICE PORTLAND OR
 400 PM PST WED MAR 2 2005

.SYNOPSIS...PERSISTENT HIGH PRESSURE OVER THE PACIFIC NORTHWEST RESULTED IN ONE OF THE DRIEST FEBRUARYS ON RECORD. COMBINED WITH THE PRECEDING DRY MONTHS... THE WINTER SEASON 2004-2005 RANKS AS ONE OF THE DRIEST WINTERS ON RECORD. THIS LACK OF PRECIPITATION ALSO EXTENDED INTO THE CASCADES WHERE SNOWPACK DATA SHOW NEAR RECORD LOW LEVELS AS WELL.

WINTER PRECIPITATION (DEC-FEB)...

CITY: PORTLAND
 DEC-FEB PRECIP: 7.15 INCHES (4TH DRIEST)
 NORMAL DEC-FEB: 14.96 INCHES
 RECORD DEC-FEB: 4.41 IN 1984-5

CITY: MCMINNVILLE
 DEC-FEB PRECIP: 5.68 INCHES (2ND DRIEST)
 NORMAL DEC-FEB: 17.92 INCHES
 RECORD DEC-FEB: 5.43 IN 1976-7

CITY: SALEM
 DEC-FEB PRECIP: 5.81 INCHES (2ND DRIEST)
 NORMAL DEC-FEB: 17.39 INCHES
 RECORD DEC-FEB: 4.97 IN 1976-7

CITY: EUGENE
 DEC-FEB PRECIP: 7.04 INCHES (1ST DRIEST)
 NORMAL DEC-FEB: 22.29 INCHES
 RECORD DEC-FEB 7.04 IN 2004-5

WATER YEAR PRECIPITATION (OCT-FEB)...

CITY: PORTLAND
 OCT-FEB PRECIP: 12.89 INCHES (3RD DRIEST)
 NORMAL OCT-FEB: 23.45 INCHES
 RECORD OCT-FEB: 7.19 IN 1976-7

CITY: MCMINNVILLE
 OCT-FEB PRECIP: 10.89 INCHES (2ND DRIEST)
 NORMAL OCT-FEB: 26.09 INCHES
 RECORD OCT-FEB: 6.22 IN 1976-7

CITY: SALEM
 OCT-FEB PRECIP: 11.25 INCHES(2ND DRIEST)
 NORMAL OCT-FEB: 26.81 INCHES
 RECORD OCT-FEB: 7.61 IN 1976-7

CITY: EUGENE
 OCT-FEB PRECIP: 12.72 INCHES(3RD DRIEST)
 NORMAL OCT-FEB: 34.08 INCHES
 RECORD OCT-FEB: 10.60 IN 1976-7

THE FOLLOWING SNOWPACK DATA COURTESY OF THE NORTHWEST AVALANCHE CENTER.

	CURRENT DEPTH	CLIMATE AVERAGE	% OF NORMAL	LAST YEAR	THRU 2004 MAX/YEAR	THRU 2004 MIN/YEAR
TIMBERLINE	43	142	30	195	244/1999	37/1977
MEADOWS	30	120	25	135	245/1974	38/1981

FOR THIS AND MORE WEATHER INFORMATION...PLEASE VISIT [HTTP://WEATHER.GOV/PORTLAND](http://weather.gov/portland)



Silver Falls, Oregon

It seems we have returned to typical Northwest weather of rain showers and mid 50 degrees Fahrenheit. At this point in the season most of the crops look to have made it through the dry spell without suffering from too much stress. Another week or two of dry weather in the Willamette Valley and it would have been a different story. Keep your eye on the Kentucky bluegrass market. The local governments in Eastern Washington, Eastern Oregon, and Idaho have begun to limit water usage already. Most of the irrigation water comes from reservoirs that are filled by melting snow pack. Current snow pack levels are at all time lows in the Cascade Mountains. In the meantime, Washington State is also getting some much needed rain as well, but it's a production region to keep an eye on.

Markets, Here and Abroad.

Where do we start? How about with the weak dollar or the New Zealand harvest. Lets begin with the weak US dollar. The weak dollar continues to help the export market. Europe has been a large buyer of certified creeper, chewing fescue, and tall fescue. There was also good movement of tall fescue to China. I expect the export business to remain strong throughout the 2005 crop year. What about the New Zealand harvest? Well the reports are not so good. Reports from "down under" indicant less then average yields and gemination issues. Most of New Zealand experienced large amounts of rainfall during harvest, causing lower yields and poor quality. Nui perennial ryegrass can currently be offered in the 70-72/cwt range. However, in talking to one grower on the south island of New Zealand, he was not sure how long supplies of good quality perennial ryegrass would last. This particular grower was unable to fill all of his contracts for Nui and was trying to renegotiate them. Between New Zealand's internal use and what was contracted to Europe, I don't expect New Zealand perennial ryegrass to effect the US market. The same can be said about white clover.

Don't expect New Zealand white clover to be purchased for less then 210/cwt and Haifa white clover for less then around 190/cwt. I don't expect too much white clover to be imported in to the US at these levels. Current Oregon production of white clover is said to be up from last year but with the lack of imported product I don't expect the white clover market to soften too much. Certification Acreage Reports from Oregon State University should be available in another month to give us a more accurate look. But for now, here is a quick snapshot:

The following is a list of the top-ranked crops for certified acres planted in 2004, and their change from

2003. As published in CROP and SOIL NEWS/NOTES January, 2005 Vol. 19, No.1 Perennial ryegrass (-11%); Tall fescue (+11%); Kentucky bluegrass (+35%); and Annual ryegrass (+171%). Other crops showing significant change from the certified acres planted last year include: Chewings fescue (+43%); Red clover (+26%); Creeping bentgrass (+22%), In-intermediate ryegrass (-60%), Orchardgrass (-29%); and Rough bluegrass (-20%).

So what does this all mean? I would expect the proprietary forage market to remain strong. Especially as there is more awareness of the benefits of proprietary versus common products. Here is a quick breakdown by product: Forage tall fescue, festulolium, and named perennial tetraploid are tight and should remain so. White clover, trefoil, and alfalfa prices should remain strong. Look for orchardgrass to creep up. With the low price of orchardgrass and production issues like choke, there are a number of acres that were plowed out last fall or will be plowed out this fall. The red clover market should soften as we get closer to the new crop.

What do we see in the turf market? Here is my snapshot. Fine fescues and tall fescues will get stronger especially "elite" turf-type tall fescue like Cochise III. Currently most companies are sold out of their "new/elite" varieties of turf-type tall. Sod quality has been sold for more then 60/cwt this spring. Look for the price of turf-type tall fescue to only go up. Fine fescues like chewing and hard should have one more strong year (2005/2006) before we see production catch up to demand. Look for prices of both those species as well as with named creeping red to get stronger. With a good crop of perennial ryegrass the market will likely soften. My guess is you'll see that market a few cents cheaper come new crop.

Legal Disclaimer- these are the thoughts of only one guy and are not intended to be used for financial gain. For the latest market or production updates please consult your sales representative or give me a call.

Seed Industry Notes

The release of Roundup® resistant alfalfa is on hold until Japanese hay buyers are comfortable with GMO alfalfa.

This spring we have seen an increase in the cost of seed in new production contracts for alfalfa seed due to the short crop in Canada.

Amazing Prg finishes strong in the 2000-2003 Final NTEP.



Most of us at this time of year are experiencing “Cabin Fever” and are awaiting the first opportunity to get out side and evaluate what Ole’ Man Winter did to our crops and turf stands. Here in the Northeast, we experienced winter in several ways. Some of us had extremely cold temperatures and exceptional amounts of snowfall, while others had an “open” winter with minimal snowfall. All these weather factors influence the health of our plants and the start our growing season. I would like to take this opportunity to discuss two diseases that effect turfgrass and why we should plant improved varieties.

Gray Leaf Spot on Perennial Ryegrass

Gray Leaf Spot has been observed during the last ten years in the eastern and central U.S. Appearing first in the Mid-Atlantic States, it has been moving westward through southern Pennsylvania, Ohio, Kentucky and into Indiana and Illinois. Gray leaf spot was initially observed in Illinois in 1991 (this was also the year it was first found in southeastern Pennsylvania). Varying levels of the disease have been noted the last few years, with a major outbreak occurring in the summer of 1995 on the east coast. The fungus *Pyricularia grisea* that causes leaf spots and blights on several types of warm and cool season grasses causes Gray Leaf Spot. The fungus also causes “blast” of rice, a very important disease on one of the world’s most important food crops. Because of this, you will sometimes hear gray leaf spot referred to as “Ryegrass blast.”

Pyricularia grisea produces abundant conidia (asexual spores) on infected leaf tissue. These spores move with wind and rain and can lead to rapid development of the disease. Gray leaf spot begins as small gray-to-brown leaf lesions, which may not be noticeable during early stages of infection. As the disease progresses, reddish brown patches, one-to-two inches in diameter, quickly appear in affected turf. These symptoms can be easily confused with *Pythium* Blight or early *Rhizoctonia* brown patch. However, *P. grisea* produces no foliar mycelium or “smoke ring,” and generally occurs at somewhat cooler temperatures or later in the season than *Pythium* or *Rhizoctonia*.

Gray leaf spot is most severe during warm (80°s F) and

humid weather, under higher rates of nitrogen, and on ryegrass seedlings. In Illinois, the disease is most likely to start in late August or early September, once the higher daytime temperatures of summer are past. This often coincides with the timing for overseeding perennial ryegrass fairways in autumn, and the disease can become chronic and severe on the new seedlings.

Greenhouse tests have shown that *P. grisea* causes leaf spots on mature ryegrass, but will kill seedlings outright rather quickly. So the combination of autumn overseeding, a propensity for the disease to occur at this time, and rapid production of inoculums (spores) can make for a volatile situation on perennial ryegrass overseeding. With that being stated, you will see in the next few charts how AMPAC’s Perennial Ryegrass varieties perform in the NTEP’s as well as at Rutgers University.

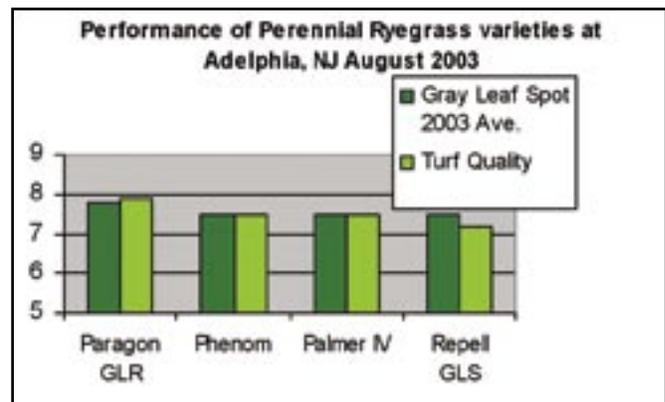


Chart 1

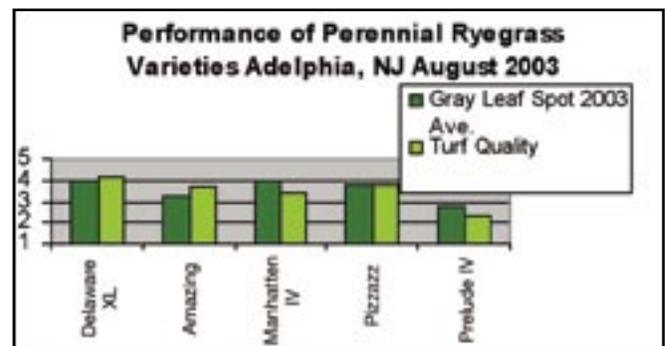


Chart 2

As you can see in the Chart 1, Phenom, which will be available in the Fall of 2006 from AMPAC Seed Company, ranked very high in Gray Leaf Spot Resistance and was one of the top 5 performers at Rutgers. Chart 2 shows AMPAC’s commercially available varieties performing very well against comparative varieties. The rankings are on a numerical scale ranging from 1-being the worst and 9 the highest. LSD for both Gray Leaf Spot and Turf Quality is 1.2.

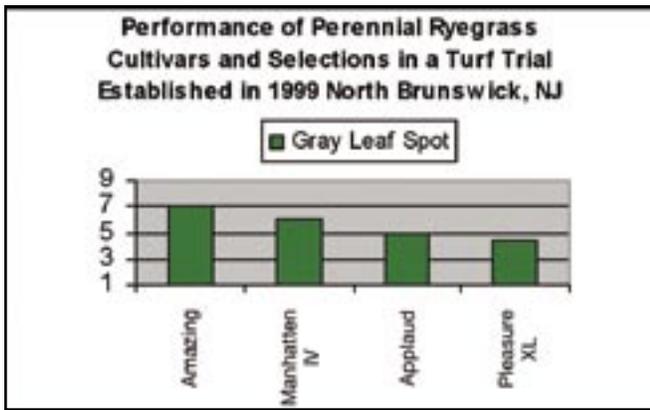


Chart 3

As you will notice in Chart 3, Amazing and Pleasure XL perform very well against Gray Leaf Spot compared with similar varieties. Data collected Fall 2003. Once again the numerical values are 1 being the worst and 9 the best. LSD is 2.5.

Brown Patch on Tall Fescue

Brown patch affects all commonly cultivated cool-season turfgrasses. However, cultivars differ in susceptibility. Tall fescue, Kentucky Bluegrass and Perennial Ryegrass are the primary turfgrass hosts. *Rhizoctonia solani* is the fungus that creates Brown Patch.

Look for circular patches of dead and dying grass. They may encompass large portions of the turf. The turf in these patches appears "sunken." The center of diseased patches may appear less affected, and it may show the frog-eye symptoms commonly associated with summer patch. However, look for the characteristic brown-patch leaf spot on individual blades. It will distinguish brown patch from summer patch. Also, brown-patch-affected turf appears less matted. Look at green plants within the affected turf. A dark-brown margin will surround long, irregularly shaped grayish-colored leaf spots. If you are having diagnosis troubles, contact a plant disease diagnostic laboratory. They will isolate and culture the pathogen to determine the species.

Factors favoring brown patch are dense, heavily fertilized, irrigated turf during hot (above 85°F), humid weather when nighttime temperatures remain above 60°F. When diagnosing, look for poorly drained soils and thick thatch. These factors contribute to brown-patch incidence. Leaf wetness contributes to disease formation and high levels of nitrogen and low levels of phosphorus or potassium may cause increased disease severity. Also, if your mower blades are dull, you may be contributing to the incidence of this disease. Dull blades fray grass tips, causing excessive wounding and enhancing infection.

To manage brown patch, avoid high nitrogen application rates during the summer. The nitrogen stimulates lush growth that is more susceptible to brown patch. Avoid watering practices that keep the turf wet for more than 6 hours. Irrigate in the early morning so that the leaf blades dry quickly. Also, aerify and de-thatch to keep thatch to less than 0.5 inch. Plant or overseed with resistant varieties to improve your stand of turf and alleviate the detrimental effects of this disease. Please review the charts below to see how AMPAC's varieties are performing.

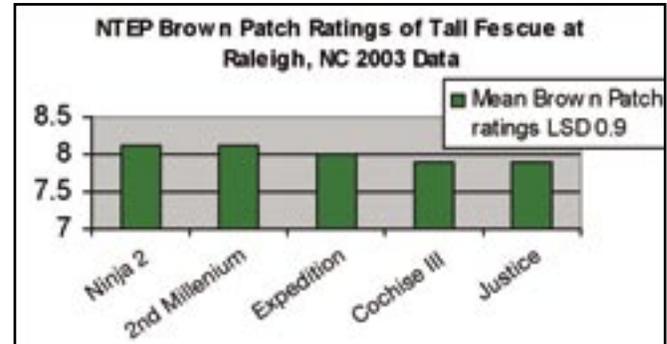


Chart 4

Chart 4 shows our three leading varieties of Tall Fescue out performing similar quality varieties in Raleigh, NC.

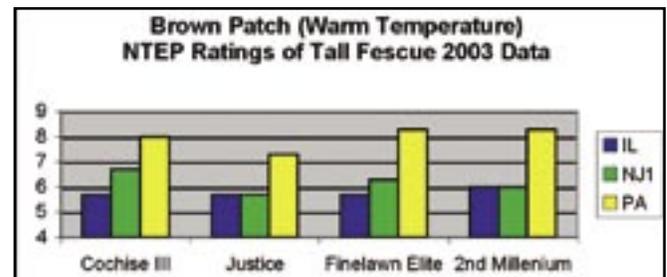


Chart 5

Chart 5 compares Cochise III and two other varieties in three locations of the United States. Cochise III is equal or better in Brown Patch resistance in all three locations.

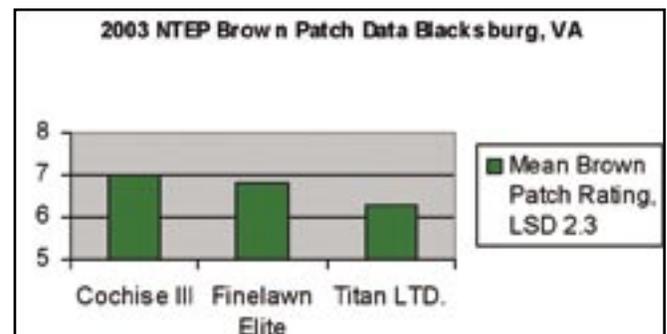


Chart 6

Chart 6 once again compares Cochise III against two more leading varieties for Brown Patch Resistance in

southern Virginia. Cochise III out performs the other varieties in this chart.

AMPAC Seed Company is very proud of our varieties and how they perform in both NTEP and University trials. Thank you very much to those of you who are using our varieties. And to those of you considering AMPAC varieties, feel confident that you are selecting high quality, top-performing varieties.



We live in exciting times for forage agriculture! After listening to Dr. David Zartman from The Ohio State University speak a few times over the past two years on CAFOs (Concentrated Animal Feeding Operations) I am convinced that forage farming and grazing are not just fads, but rather practices that should continue to grow in importance. By utilizing improved forages and managed intensive grazing techniques, many livestock producers are finding great profitability in livestock production. As forage seed companies continue to bring new genetics to the market, producers have many more “tools in their toolbox” to use than ever before. Because of this, many producers are confused about what products to use. As my friend Dave Nuhring says, he needs products that are “silver-bullets” (fool-proof) to sell to people because they don’t always manage right. But, as Dave knows, there are very few “silver-bullets.” Each year I get calls from producers with questions about what to plant and how to manage their new species (especially the brassicas!). These calls are made because the producers are showing a tenacity to learn and a desire to keep the family farm alive.

But, sometimes producers get overly excited about products they do not necessarily need to be profitable. And unfortunately, products are potentially misplaced. It is not that the products don’t perform very well, but the producer could have used a different product and been just as happy; and maybe more profitable. On the other hand, many producers still “do the same thing Grandpa did” and they find less profit because they choose not to manage as well; or they choose not to use the better products! I get excited when someone is open and willing to try something new. But grandpa wasn’t always wrong either! This is why I believe Ampac Seed Company is successful: we bring new products to the

market place, we work with university forage agronomists, we get out on the farm to make sure we know what works, and we see how to best utilize the products we market. But, we don’t throw out practices that work, and we do our best not to ever recommend the wrong products. Our distributors are among the “best of the best” and we thank them for being our partners in helping to market our products responsibly.

Bronson Forage Tall Fescue

One product that is under-utilized in our line-up is Bronson Forage Tall Fescue. For many years people have recognized the problems of endophyte infected (E+) tall fescue (especially K-31) and the animal health issues caused by the endophyte fungus. But when the “endophyte-free” (E-) tall fescues hit the market some 20 years ago there were problems with establishment and persistence. Because older E- tall fescues did have problems there are now “novel endophyte” varieties on the market that add a new tool for the producer. Is it any wonder the producer may get confused!?! Who needs what product? Does everyone need the novel-endophyte TF? Are producers getting “overly excited” about a product that they may not need?

Do the newer E- varieties have the persistence problems that the old ones did? That is what I wanted to know...I'll share what I found out.

First, plant breeders have come a L-O-N-G way with the E- Tall Fescues. Let’s take a look at Bronson Forage Tall Fescue. Bronson is a variety that I’ve come to appreciate more each year. How does Bronson stand up to the summer-time pressures where the E- varieties have lost their stand? Very well. Bronson has a good record in the south as well as the north for persistence. Ampac has entered Bronson into several university variety tests in Mississippi, GA, VA, PA, KY, MO and elsewhere. When we look at the data from these university sites we see that Bronson is persisting very well in almost every trial. For instance, at the Coastal Plain Branch Station in Newton, MS in the third year of a TF trial, Bronson yielded 105% of the trial mean and 105% of Ky-31 E+ and 99% of Jessup Max-Q (novel endophyte). Bronson was holding up quite well at this location even after three harvest years. At the Virginia Tech Southern Piedmont Research farm in Blackstone, VA we have seen Bronson persist and perform very well compared to E+ and novel endophyte products in a very tough environment. So, if we are seeing Bronson persist in the harsh “fescue-belt” shouldn’t we be selling more in the south and even in the north?

After spending time with Ed Ballard and Frank Ireland (University of Illinois extension specialists) I see where tall fescue has great potential, even north of the “fescue belt.” The ability to stockpile tall fescue in the winter adds great potential for feeding less hay and grazing more grass, even into the winter in many areas. Bronson works very well for stockpiling, even in Wisconsin and Iowa where beef producers are enjoying these benefits. And it is persisting, even with the winter-time grazing pressure.

What sets Bronson apart from other tall fescues... soft leaves...

What sets Bronson apart from other tall fescues? Bronson is a “tough fescue with soft leaves.” At Penn State’s Haller Farm near State College, PA, the chart below shows Bronson is being consumed at a higher rate than two very good products from our competitors. The key to any forage product is to have the animal consume as much as possible (showing improved palatability) and utilize as much of what they consume (showing improved digestibility), and Bronson provides these traits!

**Penn State University
Haller Farm, State College, PA
Grazing Trial, sown August 2001
Forage Consumed per acre**

Variety	2002 Total	2003 Total	2004 Total	3-year Total	% Stand
Bronson	7,658	10,471	8,463	26,592	95
Barcel	5,952	8,563	7,486	22,001	91
Jessup MaxQ	6,023	9,225	8,548	23,796	93
LSD. (0.05)	1,525	2,040	1,556		

Visit <http://pubs.cas.psu.edu/FreePubs/pdfs/uc068.pdf> for complete trial information. (Jessup Max-Q is a product of the Pennington Seed Company and Barcel is a product of Barenbrug, USA)

Bronson has shown to be persistent across a wide geographic area, it is high yielding, and it is more palatable than most Tall Fescues on the market today. Also, Bronson establishes very quickly compared to Fawn and KY-31 and many other varieties.

If your customers are afraid to use Tall Fescue because of experience with the old E- varieties you can assure them that Bronson Tall Fescue is one they should be very pleased with. Or, if they are maybe getting “overly excited” about some of the newer technology, then ask them to compare the products head to head on their own farm as Ampac has in many trials. Let them make

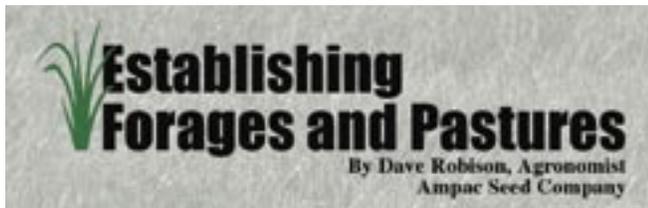
wise decisions based on their experience and not on what ads they have read or good or bad stories they have heard. AND...don’t think that because you are not selling the newest “new technology” forage tall fescue that you are not selling an outstanding product! Ask your customers to give Bronson a try; they will be glad you asked!



Producers can choose to feed their animals the “old fashioned” way in a feed lot.



Producers can choose to stockpile Tall Fescue.



Introduction:

“You sold me bad seed.” The seedsman cringes when he hears that charge from his friend and customer. He answers, “the seed was 90% germ and it was very good seed!”...The irritated producer replies, “but if it’s not bad seed then why didn’t I get a good stand?” “Well, let’s look at your establishment practices and tools...”

This scenario is real to too many seedsmen and producers alike as more and more producers are sowing pastures and hay fields for the first time in years. In my 25 years of seed sales and agronomy work I have never sold “bad seed” but I have seen fields that did not establish well. In our allotted space I would like to look at some of the major issues in establishing forages.

Planting Depth:

It was a classic case of planting too deep. Wherever the tractor wheel tracks were there was a dense stand of alfalfa and everywhere else it was sparse. It has amazed me how all the “good seed” ended up in the tire tracks and the “bad seed” was dispersed over the rest of the area! The reality of the situation is that the soil had not been firmed properly for planting alfalfa or forage grasses. A properly prepared seed bed is worked well and is firmed with a culti-packer or other tillage tool that will firm the soil. A good test of whether your soil is firm enough is by walking through the field! If the heel of your boot is leaving more than ¼" of an imprint then you should take one more trip over the field to make it more firm. Even if you are using a Brillion-type seeder you still need to have a good, firm seed bed prepared. Don’t just count on your seeder to give you the firmness you need.

If you are no-till seeding into an existing pasture or seeding a new pasture, it is vital to have proper seeding depth and seed coverage. The proper seeding depth for forage grasses and legumes is ¼-3/8" deep. This will be attained by properly setting your drill and sowing into a firm, moist but not wet seedbed.

Sowing with Cover Crops:

In many areas producers use oats or other cereal grains as a cover crop. While there are some advantages gained by using a cover crop (especially for weed

control) there are also some issues that should be addressed. If a producer is using more than one bushel/acre of oats as a cover crop it is generally believed that he loses one cutting of alfalfa in the seeding year. If in fact he harvests the oats for grain he may reduce the alfalfa stand as well. One of the more important comments I have heard on cover crops is that producers must remember what crop they are planting. Are they producing an oat crop or an alfalfa field (or pasture)? “Both” is not a real good answer! If the cover crop is harvested or grazed at 8-12", more sunlight can reach the alfalfa or pasture seeding and work as a helper. If the cover crop is harvested for grain then it is usually a hindrance.

If a producer is sowing a pasture mix that includes ryegrasses or festuloliums, they will establish quickly and reduce the “need” for a cover crop. Another issue is that the cover crop is planted at 1-1½" deep and your pasture or alfalfa is to be at ¼-3/8" deep. Producers must manage for the seeding depth on both crops.

Frost Seeding:

Frost seeding in late February to early March is a common practice for establishing clovers into an existing pasture. Some producers also frost seed ryegrass or festulolium into existing pastures. One of the keys to success for this area is to control the growth of the crop that you frost seed into. Grazing or clipping existing pastures when they reach 8-10" down to 4-5" will allow sunlight to reach the new seedlings. Many species can be frost seeded but the greatest success will be found with ryegrass, festuloliums, and clovers because they establish quickly. This practice generally works well, especially if spring weather conditions are moist and cool. In warmer and drier than normal springs the seedlings will not be as vigorous and will often not establish as well.

Conclusion:

Establishing forages and pastures is a key step in having a thick, lush, profitable stand. With attention to a few important steps the producer sets himself up to have greater success. By properly preparing his soil and setting his drill to the right depth he can decrease the risk of planting too deep and reducing his stand. By properly using cover crops (or eliminating them) he can attain a good stand without too much crowding or shading of the desired crop. And by correctly managing the height of an existing pasture he can have very good success with frost seeding grasses and clovers to enhance his forage field to gain profitability.