(where the average EPD = 0). The across-breed adjustment factors allow producers to compare the EPDs for animals from different breeds for these traits; these factors reflect both the current breed difference (for animals born in 2005) and differences in the breed base point.

TOMATO LEAF-SPOT DISEASES

This is the time of year that two common leaf-spot diseases appear on tomato. Septoria leaf spot and early blight are both characterized by brown spots on the leaves. Septoria leaf spot usually appears earlier in the season than early blight and produces small dark spots. The spots made by early blight are much larger and often have a distorted "target" pattern of concentric circles. Heavily infected leaves will eventually turn yellow and drop. Older leaves are more susceptible than younger ones and so these diseases often start at the bottom of the plant and work upward. Mulching helps prevent splashing of water and the disease spores that water carries. Also, plants up off the ground are less vulnerable than those allowed to sprawl due to better air circulation and quicker drying of foliage. Therefore, mulching and staking or caging of tomato plants can help. Some years tomatoes can still develop these diseases even if all the above recommendations are followed. In such cases, fungicides are helpful. Be sure to cover both upper and lower leaf surfaces and reapply the fungicide if rainfall removes it. Plants usually become susceptible when the tomato fruit are about the size of walnuts. Chlorothalonil is a good choice for fruiting plants as it has a 0 day waiting period. This means that the fruit can be harvested once the spray is dry. Chlorothalonil can be found in numerous products including Fertilome Broad-Spectrum Fungicide, Ortho Garden Disease Control, PBI Gordon Multipurpose Fungicide, GardenTech Fungicide Disease Control and others. Be sure to start protecting plants when the disease is first seen as the disease on heavily infected plants is virtually impossible to stop.

Squash Bugs—Squash bugs are the grey, shield-shaped bugs that feed on squash and pumpkin plants. If you have had problems with these insects in the past, you know that they are almost impossible to control when mature. This is because the squash bugs have a hard body that an insecticide has difficulty penetrating. Thus, spraying when the insects are small is important. We are now seeing the nymphs of the first generation. These nymphs will eventually become adults, which will lay eggs that will become the second generation. The second generation is often huge and devastating. Therefore, it is important to control as many squash bugs now as possible. Because squash bugs feed by sucking juice from the plant, only insecticides that directly contact the insect will work. General use insecticides such as permethrin, malathion, rotenone, and methoxychlor provide control if a direct application is made to young, soft-bodied squash bugs. This means that you MUST spray or dust the underside of the leaves because this is where the insects live.

Wheatland Stocker Conference

August 22, 2007 — 8:30am — Cherokee Strip Conf Center
Enid, OK

8:45am—Everything You Wanted to Know about Ethanol Co-Products
9:40am—Myriad of Factors Affecting the Beef Markets
10:30am—Assessing Wheat Pasture Lease Agreements
11:15am—What I Have Learned in the Stocker Business
1:00pm—Preventive Health Program in Stocker Cattle
1:45pm—The Big Picture of Treating Respiratory Disease in Stocker Cattle

Pre-Registration deadline: August 17, 2007

For more information and to pre-register call Greg Highfill at 580-237-7677 or email: Greg.Highfill@okstate.edu

This newsletter is published monthly by the Beaver County OSU Extension Office, PO Box 339, Courthouse, Beaver, OK 73932 (580) 625-3464, and is one way of communicating educational information. Reference to commercial products or trade names is made with the understanding that no discrimination is intended and no endorsement is implied.

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OKLAHOMA STATE UNIVERSITY EXTENSION

AG NEWS

Division of Agricultural Sciences & Natural Resources
Oklahoma State University

*Beaver County Extension Office * Courthouse * Box 339 * Beaver OK 73932 * (580)625-3464*

July 2007

BALKO NO-TILL WHEAT VARIETY TRIAL

No statistical data is available as of this newsletter, but preliminary observations show that the 32 cultivars/varieties in 4 replications had a plot average of 87.9 bushels/acre. Test weights were 57-59 pounds per bushel. Thirteen of the varieties exhibited yield over 90 bushels per acre. Several individual plots exceeded 100 bushels per acre. Details will be available soon. Many thinks to cooperating producer, Kenton Patzkowsky.

SOURCE AND AGE VERIFICATION: IS THERE A TRAIN? CAN I CATCH IT?

by Dr. Chris Richards

With the developing demands of export markets and evolution of USDA's Agricultural Marketing Service (AMS) oversight of marketing claims, several new programs have become available to producers in a relatively short time period. These programs have resulted in terms such as Beef Export Verification (BEV), Source and Age Verification (S&A) Quality System Assessment (QSA), and Process Verified Program (PVP) to become widely used in the media. It is frequently suggested that participation in these programs will bring additional revenue to cow-calf producers without much guidance on how to catch the train.

While it is too late to start keeping records for our spring calving herds, it is the perfect time to begin determining if you can get extra value from your previous record keeping. While there is no standard form that meets the requirements of all PVP and QSA Source and Age Verification programs, all programs still require that you have kept minimum records that include:

1. Demonstration of ownership of the calves since birth
2. A record of the first and last calf born is required, but additional benefit may be received from having kept detailed calving records including such information as dam and calf individual identification, calving date, and sex of each calf

To participate in programs, producers must also be willing to retain the above information for at least three years. Records will have to be made available to the program you are involved with and you will have to be willing to participate in audits. Audits are required annually of at least 10% of participants to maintain the integrity of the program. These audits may be conducted by employees of the program and/or by government officials overseeing the program.

The added value being promoted with source and age verification through QSA and PVP programs is primarily from allowing products from the cattle to qualify for export to Japan. Consequently, determination of the availability of extra value depends on supply and demand of cattle that are qualified for the export to Japan. At least currently, it appears that there is some unmet demand as premiums are being promoted by a number of different organizations.

So, if you have the appropriate records, how do you catch the train? The best place to start is by visiting with the people you normally do business with. Whether you customarily retain ownership through the feed yard or sell directly to a feed yard, directly off the farm, or through a livestock market, many of these organizations have access to QSA or PVP programs. Alternately, links to a current list of approved QSA and PVP providers can be found at http://www.okanimalid.com/addingvalue.html#

PRUNE LILACS

As soon as the blossoms fade, it's time to prune your lilac bushes. This will help you maintain their height and spread. It's also a good time to thin out the old wood to stimulate new growth and more vigor. Remove as much as 40 percent of the old stems, cutting down to ground level .

LAWNS INCREASE HOME VALUE

Nearly every homeowner contemplates ways to increase the value of their home and most of them also spend significant time and money each year creating a beautiful yard. Few people, however, make the connection between the two, not realizing that a healthy and beautiful lawn and garden can improve the value of their home by **up to 15 percent**.

News published by organizations agrees that a healthy and beautiful lawn improves home value:

- According to Money magazine, while remodeling a kitchen or a bathroom may return only 75 percent and 20 percent of its cost respectively, landscaping investments are estimated to return at least 100 percent and up to 200 percent of their costs. [Money magazine, May 2003]
- A study of 2,000 realtors by Homegain.com found an investment of $500 in lawn improvements would likely yield 400 percent of that total when selling your home. [Homegain.com study, 2000]
- Ninety-five percent of the members of the Society of Real Estate Appraisers say landscaping adds to property value, while 99 percent agree landscaping increases speed of home sales. [Society of Real Estate Appraisers study, 2002]

A couple of online sources provide further facts:

- The National Gardening Association cites a study from Michigan state that reveals "that a 'good' landscape increased home values from 5 to 11 percent.
- The popular site realtor.com says that homeowners know that grass is the "crown jewel" of curb appeal.

Even in a modest yard, the return on your investment can be substantial. For under $100 and about 2.5 hours a year for the average size lawn, homeowners can create a beautiful, healthy lawn. A few simple tips apply:

- Feed Your Lawn. Lawns, like other living things, need nutrition. Agronomists suggest feeding your lawn at least four times a year, depending on your location.
- Mow Your Grass Tall. Set your mower on one of the higher settings. Your grass will thank you by growing deeper roots to match the increased top growth.

Solve Problems that Sneak Up. Weeds and tiny insects can get the better of your lawn before you know it.

DOES ORGANIC MATTER REALLY MATTER?

University of Minnesota

If two fields are similar, except for soil organic matter content which will be more productive? Chances are the one with the higher organic matter.

Most farmers know that these fields seem to produce better with fewer inputs. But why do those fields perform better?

Organic matter (OM) is composed of dead animal and plant material in various stages of decomposition. The composition of OM is very complex and is different, based on where it is formed. However, all organic matter consists of multiple nutrients (nitrogen, phosphorus and sulfur) and about 50 percent carbon.

Organic matter promotes soil binding into aggregates. Aggregation gives soil its structure, and structure is the soil's number one defense against soil compaction. Soil structure is instrumental in increasing water infiltration and decreasing crusting.

Due to the multiple holding sites, organic matter maintains nutrients longer in the soil so they don't leach through the soil profile. One percent of organic matter contains about 900 pounds of nitrogen per acre. It mineralizes a small percent each year for the plant, especially in the spring. About 10 to 40 pounds per acre per year is mineralized based on temperature, precipitation and percent organic matter.

Have you ever wondered why a corn field yielded 50 bushels per acre over what it was fertilized for that year? It was due to good climatic conditions that enhanced mineralization. Fields with low organic matter need higher levels of nitrogen fertilizer and may be prone to sulfur deficiencies.

Organic matter acts as a sponge in the soil, soaking up rainfall, helping it infiltrate into the soil, and maintaining the moisture longer. This is more apparent in a dry summer. Watch the corn curl up on the low organic matter hilltops before it curls in low lying areas. This is due to the organic matter-rich topsoil eroding over time to the lower areas, leaving the less productive subsoil on the hillsides to support plant growth.

Scientists at the USDA Agricultural Research Service in Morris, Minn., conducted research on the slopes north of Cyrus, Minn. They found that wheat yields varied across the landscape based on the amount of topsoil present. In the low lying areas the yield was as high as 90 bushels per acre. But on the side slopes where the topsoil had eroded downhill, the yield was 46 bushels per acre.

- How can the organic matter content of your soil be maintained or built up?
- Reduce tillage by using no-till, strip-till or ridge till and leaving as much residue as possible on the soil surface. This is one of the best ways to maintain OM levels.
- Use livestock manure or cover crops as a way to build the carbon levels in the soil.
- Add perennial and companion crops to increase OM content.
-

Within a few years, you'll see less ponding, better water holding capacity and a more productive field. And economic benefits will include lower fertilizer costs and fuel savings from fewer trips across the fields.

FOOD INFLATION ACCELERATES DUE TO HIGH ENERGY COSTS

Food inflation has accelerated to 3.8% in the 2nd quarter of 2007, and it appears likely to accelerate further through 2007, according to Michael Swanson, Wells Fargo agricultural economist.

"A hot debate has broken out on whether ethanol is 'to blame' for food inflation," says Swanson. "Unfortunately, most news reports boil the answer down to an overly simplistic answer."

High energy costs are the main reason corn prices hover near $4/bu., explains Swanson. "The consumers should complain to The Organization of the Petroleum Exporting Countries (OPEC) and not to the farmer if they're unhappy with food prices," he says.

While "energy via ethanol has logically accelerated food inflation," Swanson notes that the current inflation in food prices is more the result of high oil prices than any other factor. In addition, under the current economic conditions, food retailers and manufactures are able to increase profit margins and pass the blame onto ethanol.

"The U.S. regularly encounters food inflation even when corn and soybean prices are low or falling," points out Swanson. "Retailers and food processors typically put an extra markup on top of any increase in commodity prices."

The bad news for farmers is that food inflation is occurring at a time of rewriting the current Farm Bill. "During the 2002 Farm Bill cycle, the government faced a projected budget surplus, low food inflation and low commodity prices," points out Swanson. "All three of these factors have been reversed, and it appears that the commodity portion of the Farm Bill will receive adverse scrutiny."

OK AG TECHNOLOGY FIELD DAY

August 9, 2007 — Grady County Fairgrounds — Chickasha, OK

The Grady County Fairgrounds and Event Center is located in Chickasha, OK just southwest of Oklahoma City on the H.E. Bailey Turnpike (I-44). The fairgrounds location allows easy access to the interstate, downtown Chickasha, and the Oklahoma City Airport.

This location is ideally suited to host the 2007 Ag Technology Field Day. The air conditioned exhibit building has ample vendor space and capacity for lunch and presentations. The community building also has meeting rooms for presentations. There is plenty of parking space and an adjacent area for ride and drive demonstrations.

Educational programs and demonstrations regarding precision agriculture technology will be scheduled throughout the day. The field day will feature the latest precision agriculture technologies and experts that have developed, evaluated, and used these technologies. Educational topics include Sensor Based Nitrogen Management, Strategies to Reduce Sprayer Drift, Economics of Sprayer Control Systems, Selecting a GPS Guidance System, and Using Technology for On-Farm Comparisons. Along with the educational programs, participants are encouraged to use the 'ride and drive' area to try out the latest GPS guidance systems. There will also be demonstrations of automatic boom section control and automatic boom height control for sprayers. You can miss this one of a kind field day. Lunch will be available on site.

For more information contact: Randy Taylor
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MARC RELEASES 2007 ACROSS-BREED EPD CALCULATIONS

U.S. Meat Animal Research Center

USDA's Meat Animal Research Center (MARC) has released its table of adjustment factors to be used to estimate across-breed expected progeny differences (AB-EPDs) for 16 breeds available at the Beaver County OSU Extension Office.

Using the table values, bulls of different breeds can be compared on the same EPD scale by adding the appropriate adjustment factor to the expected EPDs produced in the most recent genetic evaluations for each of the breeds.

These adjustment factors were updated using EPDs from the most recent national cattle evaluations conducted by each of the 16 breed associations. The breed differences used to calculate the factors are based on comparisons of progeny of sires from each of these breeds at MARC in Clay Center, NE. The analyses were conducted by MARC geneticists Larry Kuehn and Mark Thallman, with the assistance of Dale Van Vleck and Larry Cundiff.

As an example, suppose a Simmental bull has a weaning weight EPD of + 25 lbs. (which is slightly below the average of 32.9 lbs. for Simmental cattle born in 2005), and a Gelbvieh bull has a weaning weight EPD of + 45 lbs. (which is slightly above the average of 41 lbs. for Gelbvieh cattle born in 2005). The across-breed adjustment factors for weaning weight (see the table) are 24.4 lbs. for Simmental and 7 lbs. for Gelbvieh.

Thus, the AB-EPD is 25 lbs. + 32.9 lbs. = 57.9 lbs. for the Simmental bull and 45 lbs. + 7 lbs. = 52.0 lbs. for the Gelbvieh bull. The expected weaning weight difference when both are mated to cows of another breed (e.g., Angus) would be 57.9 lbs. -52 lbs. = 5.9 lbs.

The AB-EPDs are most useful to commercial producers purchasing bulls of more than one breed to use in crossbreeding programs. Uniformity from one generation to the next can be improved by selecting bulls with similar AB-EPDs. Selection for uniformity is especially important in rotational crossbreeding systems for traits such as birth weight to manage calving difficulty, and for traits related to cow size and milk production to effectively manage feed requirements in cow herds.

In terminal cross-breeding systems, AB-EPDs for growth traits can be used to identify bulls across breeds whose progeny should have the highest growth potential.

Birth weight AB-EPDs are useful for selecting bulls for use on first-calf heifers to decrease the likelihood of dystocia.

Most breed associations publish EPDs on an annual basis. These EPDs predict differences expected in performance of future progeny of two or more bulls within the same breed for birth weight, weaning weight, yearling weight, and maternal milking ability (as reflected in progeny weaning weights).

Normally, the EPDs of bulls from different breeds can't be compared because most breed associations compute their EPDs in separate a nalyses and each breed has a different base point