

AGRICULTURE

Golden Plains Area Newsletter

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July/September 2024

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AG BUSINESS

Margin Protection Insurance for Corn Sign-up Starts June 30th Brent Young, Regional ABM Specialist

On March 30, 2023, the Risk Management Agency (RMA) of the USDA announced the expansion of its Margin Protection (MP) Insurance plan for corn to all states in the continental US. Prior to this time margin insurance in corn was only available in a few selected counties in the mid-west. Producers have between June 30th and September 30th to purchase this coverage.

The basic concept behind MP policies can be explained by the following equation: Revenue (Yield x Price) – Costs = Margin. The yield component is based on county yields. Prices are determined in the same manner as with Revenue Protection Insurance using the December corn futures during the months of February and October. Cost includes diesel, urea, diammonium phosphate (DAP) potash, and interest. The cost factor is determined by RMA using national average prices.

An MP policy can be purchased in conjunction with Multi-Peril Revenue (RP) or Yield Protection (YP) policy or as a separate policy. Unlike RP or YP policies that utilize farm level yields, MP uses county level yields, making it possible for a farm level payment to be triggered but not an MP payment and vice-versa. MP policies must be purchased by September 30th, the year prior to the production year while the sales closing date for RP and YP policies is March 15th of the production year. Indemnity payments for MP policies are paid in June of the following year.

Advantages of MP policies include earlier discovery period for projected price (September -vs- February); premium subsidy from 44% to 59%; higher coverage levels (up to 95%) and MP protects against a margin decline not just a drop in futures prices and yields. Disadvantages include additional premiums and administrative fees; Supplemental Coverage Option (SCO) and Enhanced Coverage Option (ECO) can't be purchased with MP; individual farm cost are not considered under MP, it's possible that an individual farm may experience reduced revenues and increased costs and not receive a payment under MP and not knowing the final MP indemnity until mid-June.

Several online MP decision tools will be available in the next several weeks to assist producers in deciding if MP will work for their operation. If you have questions about this topic or any other agricultural business management issue, please feel free to contact me at 970-580-2204 or by email at brent.young@colostate.edu.

AGRONOMY

Can I Save Wheat Seed? Ron Meyer, Area Agronomy Specialist

Throughout the ages, farmers have planted seed saved from their previous wheat crop. When making seed wheat decisions, they selected the best quality seed from the highest yielding varieties. Choosing wheat varieties based on yield and quality continues, but now seed decisions include a new consideration.

With the advent of hybrid crops like corn, farmers discovered that they did not get the advantage of hybrid vigor when they saved their seed, the ensuing crop was not uniform, and yields were poor. It was quickly learned they needed to buy new seed each year of these hybrid crops to maximize yields. This annual purchase of hybrid seed commercialized the corn seed business and resulted in enormous investment into research and development for improved corn hybrids. Consequently, technology in corn has benefitted farmers with increased yield potential. But what about a non-hybrid crop like wheat?

With the passage of the US Plant Variety Protection Act in 1970, congress encouraged private investment into development of new plant varieties, including wheat. That investment is now paying off in the form of new and improved wheat genetics. However, an important component of this act was the farmer's right to save seed from some varieties. Section 113 of the act states, "It shall not infringe any right hereunder for a person to save seed produced by the person from seed obtained, or descended from seed obtained, by authority of the owner of the variety for seeding purposes and use such saved seed in the production of a crop for use on the farm ..."

Simply stated, if a farmer purchases ordinary Certified wheat seed that is Plant Variety Protected, they may keep seed grown from that variety for planting on their farm. However, keep in mind that there are **exceptions to this law** which are **Certified Seed Only** varieties. When planting Certified Seed Only varieties, new wheat seed must be purchased yearly. In addition, if a farmer buys non-certified wheat seed of a PVP protected variety from someone else, it is likely that not only is the purchase of that seed in violation of the Act, but saving seed of subsequent production is also a violation. Wheat varieties that are Plant Variety Protected must be purchased from permitted seed dealers only.

The most recent restrictions to saving seed are those imposed by patented traits and sales contracts. In most cases, farmers are prohibited by patent laws from saving seed of varieties with patented traits like Roundup® resistance in soybean and Clearfield® in wheat. This is usually reinforced through a contract that is signed at the point of purchase. Even if traits are not patented, saving seed may be prohibited as part of the sales contract. **Certified Seed Only Varieties must be purchased every season. Current varieties are: AP503 CL2, AP18AX, Brawl Cl plus, Byrd Cl plus, Crescent AX, Guardian, Fortify SF, Incline AX, Kivari AX, LCS Fusion AX, Monarch, Oakley Cl, Snowmass, Snowmass 2.0, Sunshine, SY Legend CL2, SY Sunrise, Thunder Cl, WB4269, WB4418, WB4595, WB4699, WB4721, WB4792.** Other varieties may be added to this list as they become released. Varieties not on the Certified Seed Only list can be replanted every season without purchasing new seed.

The consequences of planting illegal seeds can be substantial. The owner of the variety could go as far as filing a lawsuit asking for the destruction of the crop. There could also be monetary awards and attorney fees. If state or federal officials get involved, fines could be levied per occurrence.

Ignorance of the law is no excuse. As a best management practice, farmers should know what variety they are planting and follow the protocol for that variety. If they did purchase certified seed, they should read the label and sales contracts to see if there are any restrictions on saving seed. The label and sales contract will state planting limitations.

As a result of these new rules, new revenues are being generated which benefits wheat growers directly. Fees collected from planting patented varieties are reinvested directly toward wheat research, mostly in the form of developing new wheat varieties. The new varieties have traits that improve yield and quality, making the fees a positive investment for wheat producers. Source: Laura Pottorff, CSU State Seed Dept.

Marestail

Kat Caswell, Area Agronomy Specialist

Marestail (*Conzya/Erigeron canadensis*) has been observed in several different fields in the Front Range through northeast Colorado. Marestail, also commonly known as horseweed, is a winter annual plant that is native to North America. Most marestail seeds will germinate in the fall, forming a rosette that over winters and bolts in the early summer. Marestail can also germinate in the spring and act as a summer annual weed. Marestail is a problematic weed in corn and especially in soybeans in other regions of the United States. Seed germinated from 1/2” to 1” depths, causing marestail to be particularly difficult to manage in no-till fields. A single marestail plant can produce 230,000 seeds. Seeds are small and readily dispersed by wind. Populations resistant to ALS – inhibitors and glyphosate have been identified in the United States. Marestail is best controlled in the rosette stage, as it is difficult to kill after the plant has bolted.

In the rosette stage, marestail has slender, hairy leaves with a toothed margin. When bolted, marestail can reach up to 5 feet tall with leaves in an alternating spiral up the stem. The flower is a dense inflorescence with many small, white flowers. Seeds are small and tipped with white down.

Marestail can reduce the quality of a hay pasture or grazed pasture. The plant contains tannic acid, gallic acid, and volatile oils that can irritate skin and mucosal linings. In the summer of 2024, bolted marestail plants have been primarily observed in pastures, hay fields, and post-wheat fallowed fields. Treat marestail when it is still in the rosette stage, in April through May for the best control. Marestail responds to 2,4-D, dicamba, aminopyralid, and other broadleaf herbicides. Read and follow the labeled instructions of any weed control products.

Grazing Cover Crops

Kat Caswell, Area Agronomy Specialist

Cover crops are valued for their contributions towards improving soil quality, ecosystem services, and providing additional ground cover or residues to crop fields. In the dryland cropping systems of Colorado, cover crops provide a trade-off: cover crop can improve soil quality over time and suppress weeds but cover crops use water. The primary way to off-set the water use of a cover crop is to utilize the available forage as grazing. While the definition of a cover crop is a crop planted without the intent to harvest for profit, the term has been adopted for the use when describing an annual forage planting between major cash crops. For example, a mix of sorghum sudangrass and cowpeas that are planted after wheat harvest (with the intent of grazing) would technically be an annual forage, but it is more likely to be called a grazed cover crop.

Based on earlier studies from the Mid-west and East Coast, cover crops are planted in the short seasons between corn and soybeans or as a double crop following wheat, with the primary goal of retaining previously applied fertility, weed suppression, and a growing plant to spread liquid manure on. Increasingly specific cover crop planting recommendations in Colorado are developed through the on-going research from multiple institutions. Early research in Colorado and Nebraska has shown that cover crops can successfully be incorporated into a dryland crop rotation, but the biomass will be heavily dependent on seasonal moisture.

In years with adequate soil moisture, cover crops can provide additional forage that otherwise would be

coming from native range or feeding hay. Common cover crop species tend to be cool-season species that are high in feed value and can provide similar weight gains in stocker/feeders as late summer native range.

Oats and field peas are a low-cost option when first experimenting with cover crop. Both are cool-season plants that put on lush growth when planted in the early spring. Planting is around the same time as spring wheat, in mid-March, when the soil temperature is approximate 40° Fahrenheit. An oat-pea mix serves well as an alternative to fallow before winter wheat. Be sure to check the termination timing requirements from the USDA NRCS, so as to not affect insurance eligibility. Failure to terminate a cover crop at the correct time could create a situation where the field is treated as continuous cropping, which is not an insurable practice in all counties in Colorado.

To maximize forage quality, small grains (triticale, oats, and cereal rye) should be grazed before jointing. The amount of available forage will vary from year to year and grazing cover crops works best with a flexible herd size that can be adjusted to meet the amount of available forage. Rotational or strip grazing is strongly encouraged when grazing cover crops, this is partly to ensure even grazing and allows for enough residue to remain behind to meet conservation needs. Depending on moisture availability and season, plants may experience some limited regrowth after grazing. These areas can either be back grazed or terminated with an herbicide application before planting the primary crop.

As cover crops are not planted with the expectation of a harvestable forage yield, the amount of available forage can vary from year to year. In general, expect approximately 30 days of grazing from a cover crop. Cover crop cocktails consisting of 4 or more species of plants offer a greater diversity of ecosystem services, rooting structures, and floral resources but, typically do not yield as much available forage as a monoculture cover crop or a 2-way mix. If the primary objective is to graze the cover crop, select a cool-season small grain and, at most, one other species (legume or brassica). Avoid mixing warm-season and cool-season species if planting in the spring. Previous experiences have shown that the cool-season species will dominate the mix and limit the growth of warm-season species.

Cover crops can be planted following the harvest of a summer crop. In general, cover crops that are planted earlier in the fall have greater biomass production. Planting warm season crops such as sorghum sudangrass and millet can offer additional forage to delay having to feed cattle in the fall or extend the availability of native range. Selecting species that will winter-kill can assist with management. This includes forage sorghum, cowpeas, sunflowers, and millet. When first experimenting with cover crops, avoid species that can easily become weedy, species such as hairy vetch and poorly managed cereal rye. It will still be important to monitor cover crops in the spring, even if the area had been grazed in the fall or winter, as some species can survive during mild winters. It is important to monitor sorghum species for prussic acid and nitrates during drought years or after a hard freeze. Brassica species, such as radish and turnips, are also nitrate accumulators. Finally, check with your crop insurance agent to avoid any future difficulties.

For more information refer to:

<https://extension.colostate.edu/topic-areas/agriculture/managing-spring-planted-cover-crops-for-livestock-grazing-under-dryland-conditions-in-the-high-plains-region-0-309/>

https://eupdate.agronomy.ksu.edu/article_new/cover-crops-grown-post-wheat-for-forage-under-dryland-conditions-in-the-high-plains-400-4

Compost Field Day

Ron Meyer, Area Extension Specialist

Colorado State University, the Colorado Conservation Tillage Association, the Kansas Black Farmers Association, and the FARMS (Farmers Advancing Regenerative Management Systems) group are hosting a composting field day.

Day and time: Thursday August 8 beginning at 10 am (Mountain Time) and concluding at 4 pm. Location is approximately 4.5 miles south of Seibert, Co on Hwy 59. GPS coordinates are: 39 12 54.28N, -102 52 28.84W.

Lunch will be provided. The field day is free; **however, pre-registration is needed** to accommodate lunch numbers. Registration can be done on-line at <https://farmsproject.org/wsare/>

The field day will feature Doug Steffen, a regenerative farmer and grazer from northeast Nebraska and graduate of the Elaine Ingham Soil Food Web course. Doug has been making and applying compost on his operation for the past few years, and has many lessons learned to share with participants. We will discuss making compost, utilizing compost, and compost's effects on local soil microbiology. Activities include building a compost pile, observing soil microorganisms under the microscope, viewing local compost field trials and compost equipment. Field day hosts will have microscopes available, and participants are encouraged to bring soil or compost samples for the experts to analyze. The tour will also include viewing various soil health management systems in action.

Herbicide Drift

Ron Meyer, Area Extension Specialist

Although herbicides are a necessary tool for most farms, applications during perfect weather are difficult. Herbicide drift can occur due to adverse winds or even during temperature inversions with no wind. When applying herbicides the following strategies can reduce the potential for drifting:

1. Know the wind speed and direction. Apply herbicides when wind speeds are below 9 mph and are blowing away from sensitive areas.
2. Lower the boom. Lowering spray booms reduces the time the spray droplets are suspended in the air and reduces drift potential.
3. Reduce application pressure. Reducing water pressure coming out of the spray booms makes water droplets larger, which are heavier and less prone to moving with wind.
4. Change nozzles. Drift-reduction nozzles are now made which produce larger water droplets, which drift less.
5. Drift reduction agents. These products are adjuvants that reduce drift potential by making larger, heavier water droplets which fall to the ground faster.

While wind speed is the most common cause of herbicide drift, air temperature inversions can also keep applied herbicides suspended in the air and move them into a sensitive area. Temperature inversions occur when wind speeds are zero and cool air is trapped under warmer air. An easy way to spot temperature inversion conditions: watch vehicles travel along a gravel road. If the dust rises slightly and stops without moving off the road, an inversion exists. Avoid applying herbicides during inversions. Herbicides that travel off-site will not control weeds in the target area and can damage sensitive crops.

LIVESTOCK



Controlling Flies Prevents Lowered Gains Scott Stinnett, Area Livestock Specialist

Parasites can have a significant impact on cattle. During summer, flies can directly affect the growth of younger cattle as well as cows nursing calves. Thus, flies affect revenues as well due to decreased gains in young cattle and decreased recovery of cows. Controlling flies is relatively easy and has a positive return on the expense.

The impact of flies on beef cattle has been studied multiple times over the past 50 years. As fly numbers increase on individual animals, weight gains become reduced compared to animals treated with fly controls. These decreased weight gains equate financially to reduced revenue as animals are lighter weight at sale time. It also affects breeding animals including growing bred heifers and nursing cows trying to maintain or increase body condition.

Overall, it is estimated flies account for \$1.75 billion in losses to the beef industry. The main concerns are two blood feeding flies, horn flies, and stable flies. Horn flies are small black flies that tend to be on the belly, sides and back of cattle. These flies have a short life span of 10 to 20 days. During their adult stage, horn flies feed on 24 to 38 blood meals per day. Females leave the host animal long enough to go they their eggs in fresh manure and then return to feed. In studies horn flies have been shown to reduce weight gains by as much as 15% in growing calves, and up to 18% in replacement heifers. These reduced weight gains could equate to \$90 to \$125 less income on 600-pound calves in the current market. Nursing cows left untreated for horn flies may weigh 50 to 60 pounds lighter at the end of the summer than cows treated for flies. This is equal to half of a body condition score (BCS).

Stable flies are another blood feeder. They prefer the legs of cattle. Research found cattle left untreated for stable flies had daily weight gains reduced on average by .44 pounds per animal per day. During a 90 period, this can create a financial reduction of up to \$100 per head at current prices for 600-pound calves. The research further concluded 30% of the reduced gain was caused directly by the blood feeding, but 70% came from cattle bunching together and creating heat stress on those animals.

Other fly species can also irritate cattle and negatively affect them. Heel flies do not bite, but lay eggs on cattle. When the eggs hatch, the larvae enter the body under the skin and migrate through the body eventually locating on the back. The larvae make a hole in the skin to breathe and then will finally emerge from the hole as mature adults. These open sores attract other fly species to the open wounds. Face flies do not bite or blood feed, but instead feed on fluids and secretions from the animals' body. They are found around the mouth and eyes on the face. Face flies can function as a vector for the pinkeye virus and therefore can create a negative impact on cattle.

Controlling flies is the best way to prevent these adverse effects. Flies cannot be completely eliminated but should be kept below what is considered the Economic Injury Level (EIL). For horn flies the EIL is less than two hundred flies on an individual and stable flies should be less than 5 flies per leg per animal.

Using insecticides is the primary method of fly control. The goal is to treat cattle prior to fly levels reaching the EIL and to break the life cycle of the fly species. Insecticides can be applied as a liquid spray, powder, oil or an impregnated ear tags (fly tags). Many general parasiticides for cattle include an anthelmintic to control parasitic worms along with insecticide and can be applied as a liquid pour on product, injectable solution, or slow release bolus. Insect growth regulators (IGRs) are products meant to prevent flies from reproducing, breaking the fly life cycle. IGRs can be given as a fed supplement or pour-on product.

In a recent survey, beef cattle producers estimated they spend from \$9.50 to \$12.40 per head on fly control depending on how long flies were present in their area. When compared to the possible negative impact of \$100 less per head due to reduced gains, fly controls are cost effective.

Other management practices can also help to limit flies. Rotation of insecticides helps prevent resistance to the products over generations of flies. Proper management of manure, compost piles and other materials such as decomposing feeds limit places where flies can lay eggs and larvae can live.

Whether it is reduced weight gains or the possibility of disease, flies are not only an annoyance to cattle but have a negative impact financially. Proper fly control counters those negatives and has a positive impact on the bottom line of the beef enterprise. If you have questions on which are the most effective products, consult with your veterinarian.



Cow Depreciation, Know the Cost **Travis Taylor, Area Livestock Specialist**

Cow depreciation is a major and often overlooked expense to the cow-calf producer because it is a non-cash transaction. Cow depreciation is calculated by the following formula:

$$\frac{\text{Purchase Price or Replacement Value} - \text{Salvage Value}}{\text{Productive Years in the Herd}}$$

Replacement value is that cost to a producer who is raising their own replacement heifers. This cost should include all costs in producing that heifer starting with the costs to produce the weaned calf till the time she enters the herd ready to calve.

In the current beef markets, one can see just how this becomes a major unseen expense for the producer:

Bred Two-Year-Old Heifer = \$3000

Average Cull Cow Value = \$1800

Depreciation = \$1200/head

Though many producers may argue, on average a cow's productive life in a herd is somewhere from 3-5 years assuming a 10 - 20% cowherd replacement rate. In this example, using five years, depreciation equals \$240.00 per head per year. If you are a more progressive hard culling producer, or a cow is checked open at three years, depreciation would equal it is \$400.00. This is money that is leaving your most valued asset that, most likely, only your tax account sees. **Aaron Berger with the University of Nebraska Extension states "aggressively identifying ways to reduce depreciation expense should be a goal for cow-calf producers."** He indicates that depreciation can be reduced one of three ways.

Frist, reduce replacement heifer costs or the purchase price for bred heifers/cows. When most cow-calf producers think of buying bred replacements, they are likely thinking of purchasing bred heifers. However, it may be that purchasing a different age group of cows would be more profitable and provide greater management flexibility.

For those producers who develop their own heifers, replacements should be a separate enterprise from the cowherd allowing for a true allocation of all associated costs. A producer should know their costs to produce a weaned heifer calf and "sell" the weaned replacement heifers to the heifer development enterprise at market value, at least on paper. The replacement heifer enterprise "buys" the weaned heifers and then develops the heifers into bred heifers that can be "sold" back to the cow-calf enterprise. Once the bred heifers are ready to enter the herd, the cow-calf enterprise then "buys" these bred heifers at market value.

While all of these transactions only occur on paper, and may seem unnecessary, it brings clarity to where expenses and revenue are being generated in the operations and which enterprises are profitable. Keeping track of all expenses, including a heifer's market value at weaning, which go into developing a bred replacement heifer is important to be able to identify opportunities to optimize development costs.

The second way to decrease depreciation is to increase the salvage value of cull cows. Increasing the salvage value often provides the greatest opportunity to reduce depreciation. Frequently cow-calf producer's pregnancy test and cull open cows in the fall of the year, which is also historically when annual cull cow values tend to be at yearly lows. Other cows are frequently culled at this time as well for a plethora of reasons including age, attitude, udders, structure issues and lumps.

Arron Berger provides the two following examples of the ways that value can be added to cows leaving the herd and thereby reducing depreciation expense.

- Have a long breeding season and a short calving season. The use of pregnancy diagnosis tools such as palpation and ultrasound can identify how far along a cow is in her pregnancy. Those cows that will calve later than the desired time period can be sold as bred cows.
- Capture additional value from non-pregnant cows by adding weight and selling into a historically seasonally better market than the fall. The value of weight gain today for a culled cow can be quite amazing at current prices. This is especially true if you can move a cow from a "Lean" classification into a "Boner/Breaker" classification in a market where prices are increasing.

The final way to decrease depreciation expense is to increase the number of years a cow is productive in the herd. Evaluate ways to cost effectively reduce cowherd turnover. The primary reason cows are culled from the herd is because they are not pregnant. Young cows, especially those that are two or three years of age are often the most vulnerable. Older cows toward the end of their productive life can be vulnerable as well. There are several tools such as hybrid vigor, adapting genetics that fit operational resources, health programs and strategic feeding/supplementation that can be used to cost effectively reduce cowherd turnover.

Individual operations should take a deep dive into their heifer development systems, or those from whom they purchase replacement heifers or cows. Effectively managing this often overlooked expense can have a significant positive impact on actual profit.

References: <https://beef.unl.edu/cow-depreciation-for-cow-calf-producers>
<https://extensionpubs.unl.edu/publication/g2215/html/view>

**Travis Taylor
Area Livestock Specialist**

RSVP by August 8 for Lunch

USDA TRACEABILITY RULE CHANGES FOR CATTLE INFORMATIONAL MEETING



**Join an information panel format discussion on
the new changes to the USDA's Animal
Traceability rules for beef cattle and bison.**

**Panel Participants include representatives from:
USDA APHIS
State Vet Office , CDA
State Brand Office, CDA
Third Party Verifier, IMI Global**

**August 12, Yuma Colorado
Yuma County Fairgrounds
Noon to 2 PM**

**Lunch provided by the Yuma County Cattlemen's
RSVP to Yuma County Extension office 970-332-4151
or email travis.taylor@colostate.edu**



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HORTICULTURE

Nutrient Deficiencies in Houseplants **Linda Langelo, Area Horticulture Specialist**

Yellow, browning, or deformed leaves on a houseplant can mean many different things. Nutrients may be the cause of why the leaves are losing color, yellowing, or turning brown. It is important to know the nutrient requirements of your houseplant.

Is it a heavy feeder? This means it needs more fertilizer than other plants required to stay healthy, and they may have a faster growth rate. Some plants such as orchids and ficus require high amounts of nitrogen, potassium, and phosphorus. Use a fertilizer with a balanced ratio of nitrogen, potassium, and phosphorus but at a higher rate, or fertilize more frequently. But be careful of over-absorption of fertilizer and too much can cause root burn.

Each type of nutrient deficiency shows up differently in houseplants. Here is a good list to follow:

- A sign of nitrogen deficiency will be a general yellowing of the leaves, starting with the older inner leaves first and moving outward to the younger ones.
- A sign of potassium deficiency will be when the leaf edges turn bright yellow and then scorch, but the inner leaf stays green.
- A sign of phosphorus deficiency inhibits or prevents shoot growth. The leaves turn dark, dull, blue-green, and may become pale in severe deficiency.
- A sign of calcium deficiency is yellowing on younger leaves first that become stunted and deformed.
- A sign of iron deficiency can show up on young leaves on the top of the plant and then on the branch tips. This appears as yellowing between leaf veins with the veins remaining green.
- A sign of magnesium deficiency is shown on the leaves as yellow patches between leaf veins on older veins.
- A sign of sulfur deficiency starts turning the newest leaves yellow all over the plant.