



BARNYARDS & BACKYARDS



UW Extension gives a lift to lifestyles, livelihoods

BY SCOTT COTTON

University of Wyoming Extension Agriculture and Horticulture Initiative Team members can help you seize opportunities and grow your enterprise. The purpose of this Barnyards & Backyards insert is to introduce you to county and area educators and University of Wyoming specialists who offer news and tools to enhance your lifestyle, property and profitability.

Meet the Ag & Hort Team

The Agriculture and Horticulture Team shares the latest research and brings new ways to improve Wyoming livestock and crop enterprises. They work with you on your lawn and garden and rural living needs. They equip you to manage risks, large and small. They succeed when you succeed.

Ag & Hort educators offer intensive training programs such as Wyoming Master Cattleman, Master Hay Grower and Master Gardener. Their online learning programs equip you to make decisions about agricultural risk, enterprise feasibility and strategic planning.

Barnyards & Backyards

Subjects such as pollinators, garden cover crops and trees to enhance property values may seem disconnected from beef marketing, forage selection and artificial insemination in cattle, but they are all part of the diversity and resilience of spirit and character in our state — qualities that are enhanced by lifelong learning.

We hope you enjoy this Barnyards & Backyards insert. Members of the Ag & Hort team also contribute to the quarterly magazine Barnyards & Backyards: Rural Living in Wyoming. Every issue

contains an array of articles for small-acreage landowners, and an annual subscription is \$10.

Contact Us

Besides agriculture and horticulture, extension educators can help you in sustainable range management, nutrition and food safety, community development and 4-H and youth development. Workshops and other events are happening near you. UW Extension educators and specialists serve every county and the Wind River Reservation.



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Start a wildflower planting from seed

BY JENNY THOMPSON

Wildflowers provide food to bees and other pollinators.

Pollen provides bees (native and introduced) with protein and other nutrients that help them lay eggs and raise their young. Nectar provides energy to bees and their offspring.

Wildflower plantings require careful planning, preparation and follow-up to be successful (not to mention a little precipitation if you're doing a dry-land planting).

Here are some tips to consider as you think about a wildflower planting.

Weed Control

- Control weeds as much as possible before you plant. Avoid planting areas with large weed “seed banks” in the soil. Know what weeds are in the area, how long they’ve likely been producing seed there and how easy they are to kill. It can take over a year to get really weedy areas ready to plant. Weed control is critical, but controlling weeds amongst desirable wildflower species in large areas can be difficult.

- If you use an herbicide, make sure you know whether it has a residual period during which it may kill emerging wildflower seedlings.

Buying Seed

- Know what you are getting. Wildflower mixes often contain non-native species or native species that may spread beyond the area planted. Nature is never static. In long-term plantings some wildflowers will outcompete others, and the number of each kind of plant will vary over the years.
- You may need to place your seed order early to get what you want. Quality wildflower seed of species native to your area can be expensive, and demand often outstrips supply.
- Consider adding some bunch grasses for bumble bee nesting habitat, weed competition and ground cover.
- Remember, some wildflowers (such as larkspur and lupine) can be toxic to livestock if eaten.
- Include a variety of species that will bloom in spring, summer and late summer/fall to provide a long foraging season for pollinators.

Planting and Germination

- Plant in fall. Generally, the best time is when temperatures stay cool enough to keep seed from sprouting before winter. Fall

usually brings adequate precipitation, and cold stratification over winter increases the germination of some species.

- Water in spring. Late winter/spring moisture is critical for germination – plantings are more likely to succeed when some supplemental irrigation is possible if needed.
- If you live in an area with reliable late spring moisture or you can supply water, spring planting may work for you.
- Find pictures of seedlings of the wildflowers so you will be able to tell friend from foe when they germinate.
- Be patient. Some native wildflower seed may not germinate for two or more years after planting, and weed control can be a challenge during this period.
- Consider wildflower transplants. If the area you want to plant is small and you want to know exactly what you’re getting, transplants might be the way to go. Small transplants may be hard to find, and this is usually a more expensive option unless you start the transplants yourself. These plants will need care, such as adequate water, for the first couple of years while they get established.

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Are you pesticide-averse or an over-avenger?

HOW TO USE PESTICIDES WITH CARE AND CONFIDENCE

BY CALEB CARTER

I have gone on yard calls for a weed or pest issue, only to find the homeowner has already applied chemicals to no avail.

Often it is because they misidentified the pest or misused the product.

On the flip side, I often receive questions from homeowners who are concerned about using pesticides around their home, yard or garden. Their concerns usually center on the safety of the chemicals and potential environmental contamination.

Whether you are hesitant to use pesticides or might be misusing them, you can take steps to use pesticides safely and protect yourself, your family and the environment.

Know Your Pest

Is the pest hurting your garden production, or is it simply an aesthetic issue that will go away on its own? You may find no action is needed, or other avenues of control may work better or enhance the effectiveness of the pesticide you choose.

Proper use of pesticides begins with proper identification of the pest. This will help you determine if you need to take action or what action to take. Some pests, such as fungal leaf spot on cottonwoods, aren't really harmful and require no action.

Knowing when to do nothing is especially important in light of recent Wyoming Department of Environmental Quality groundwater quality findings. Testing results from across Wyoming show pesticide contamination in wells within municipalities is increasing, while contamination in rural wells across the state is declining.

Wear Your PPE

A study by the Minnesota School of Public Health that looked at farm family exposure to pesticides found those applicators who did not follow proper safety measures not only put themselves at risk but also their spouse and children.

The safety measures that helped farmers most were not allowing children to handle pesticides or application equipment, wearing proper personal protective equipment (PPE) during application and when working on application equipment, removing contaminated clothing before entering the home and washing contaminated clothing

separately. These safety measures are worth adopting for pesticide use around the home and in the garden as well.

Read the pesticide label to learn what PPE to wear while mixing and applying a particular pesticide. The minimum is long sleeve shirt, pants, shoes, socks, and chemical-resistant gloves and boots. Depending on the product, additional PPE may be indicated on the label.

Read the Label

The label also tells you how much pesticide to use. Not only is the label recommendation the law, but applying the correct amount minimizes risk to people and water sources.

How to Buy and Store

Keep yourself and your family safe by storing pesticides safely. Choose a secure location out of the reach of children. Keep containers clean and organized. Never put pesticides in a separate container, especially one used for food or drink. Serious injury and death have resulted from consuming pesticides from unmarked containers.

To help you make more informed decisions about pesticide purchases and use, the University of Wyoming Extension has developed a program called "Know your pesticides to better protect yourself, your family and the environment."

As a part of this effort, UW Extension is training retail employees to better help customers make purchase decisions. The program will be piloted in retail stores in 2017 in Goshen, Laramie, Natrona, Washakie and Park counties, with plans to expand in 2018. In-store displays with videos and other resources will also be available. For more information, visit bit.ly/knowyourpesticide.



Know Your Pesticide

Caleb Carter is the UW Extension educator serving southeast Wyoming. His specialty is crop systems. Contact him at (307) 532-2436 or ccarte13@uwyo.edu.



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Consider chemical alternatives to get an edge on weeds

BY BRIAN SEBADE

When we think about weed control, most of us (myself included) go down the chemical path.

Are there alternative or complementary methods to control invasive or “weedy” plant species? My answer is yes, but with a little hesitation. If the goal is to control unwanted plants, we can usually use alternative methods, but if the goal is to eradicate invasive populations, alternative methods alone may not be feasible.

First, prioritize what weeds and what populations you want to control. Chemical control of invasive plants in Wyoming is critical, and there are many chemical options and resources available.

When thinking of alternative or complementary control strategies, start by examining the biology, ecology and competitive strategies of the weed. Make an outline of what makes the weed “tick,” then make a list of potential control strategies. Need help? Contact your local weed and pest district or county extension educator.

Options will vary from operation to operation. These could include a bio control, such as an insect; maybe a change in management, such as changing tillage practices; changing the crop rotation system for a field; better monitoring for weeds in hay purchased for winter feeding; or changing the timing of chemical or mechanical control for greater effect.

What Makes a Weed?

If we think about why we have “weedy” plants, we can start to understand how to reduce or eliminate their competitiveness. By most definitions, weeds can be native to North America or introduced from another continent. Regardless of origin, these plants generally have at least one competitive advantage and often more. These might include the ability to outcompete other plants for available resources (nutrients, water, etc.) and the ability to grow and reproduce in conditions too harsh for other plants.

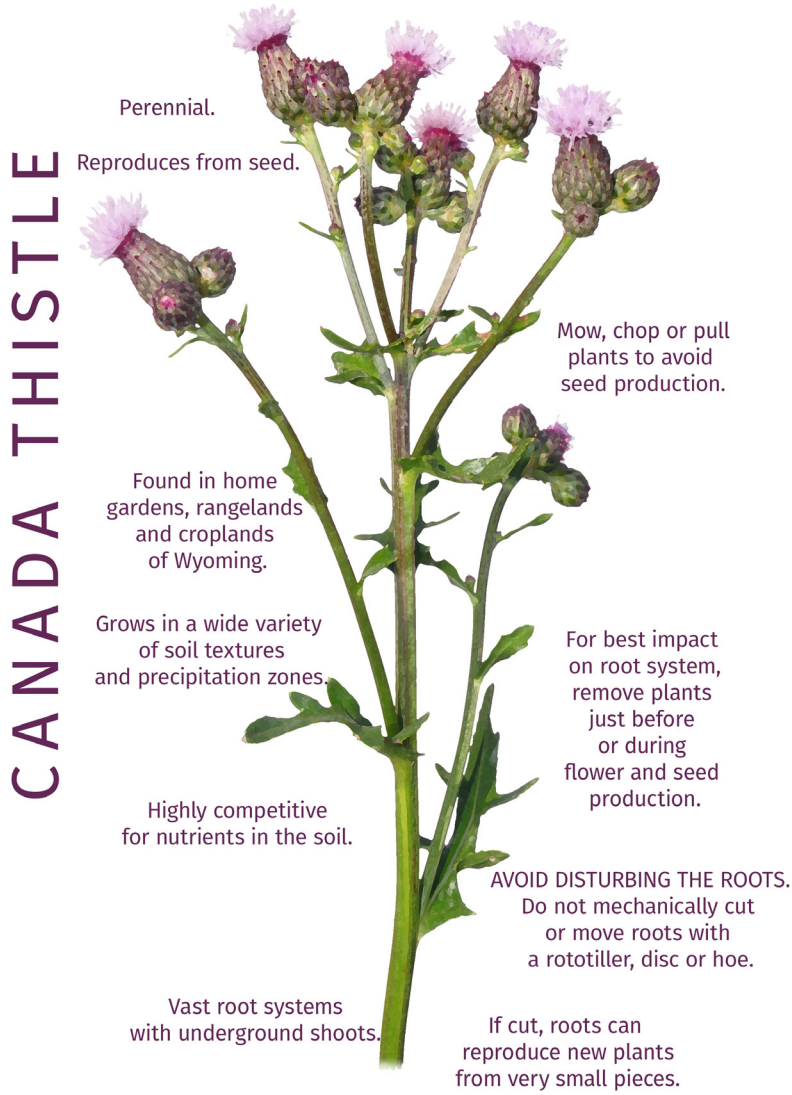
Perhaps an introduced plant has escaped its natural enemies (herbivores and pathogens) from its native region. Another theory, although challenging to prove, is some weeds produce special chemicals known as allelochemicals that inhibit the growth of other nearby plants.

Introduce Biological Controls

Biological controls might be a good choice for plant populations on a rangeland or other hard-to-access area. While biological controls won’t eradicate a population, they can help keep populations in check by stressing plants and allowing other desired plants to compete.

Think Outside the Fertilizer

Can you reduce or eliminate fertilizers in crop fields or gardens? Excess nutrients in the soil often encourage the competitiveness of weeds such as Canada thistle. Crop rotation that includes a legume for adding nitrogen, for example, can help keep the nitrogen within the field or garden system and potentially decrease excess nitrogen that moves to the edge, where weeds are often prevalent. Populations on the fringe of a field or garden can act a source for new plants to enter.



Change Timing

Changing the timing of a chemical treatment could boost the impact. For example, applying a chemical treatment during flower production creates greater stress on the plant. Chemical applications can also be more effective for control of many perennial weeds during the fall when plants are moving resources from above ground to below ground.

Final Thoughts

The last step is to prevent new weed populations from establishing and keep small populations in check. Constant monitoring is critical to ensure weeds do not get out of control. Chemicals or no chemicals, from raised garden beds to vast rangelands or croplands, implementing some well-chosen alternatives may help you better meet your long-term management goals.

Brian Sebade is the University of Wyoming Extension educator and Master Gardener coordinator based in Albany County and serving southeast Wyoming. Contact him at (307) 721-2571 or bsebade@uwyo.edu.

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Take Care or Take Another Tack

- Wildflower plantings usually require ongoing effort, so bite off only as much as you can chew. Poorly planned and maintained plantings may become a weed fest.
- Think twice before planting in areas where existing native vegetation is in reasonable shape. Instead, consider managing the area in a way that promotes native plant health. The bees will thank you for it!

Wildflower Questions?

Consult your local UW Extension, USDA-Natural Resources Conservation Service, Weed and Pest or Conservation District office.

Find more information about pollinators in Barnyards & Backyards magazine and “Promoting Pollinators on Your Place – A Wyoming Guide,” out this spring!

Jennifer Thompson is the small acreage outreach coordinator with the University of Wyoming Extension Barnyards and Backyards program. Contact her at (307) 223-3275 or jsjones@uwyo.edu.



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Cover Crops Revealed!

BY CAITLIN YOUNGQUIST

You can crown your garden with cover crops to add nutrients and organic matter to the soil, improve soil workability and tilth (structure), feed soil microbes, suppress weeds, break disease cycles and attract bees, butterflies and other beneficial insects. The best part? These are not momentary glories – they support sumptuous harvests for years to come.

Sow, Grow, Mow

The simplest way to add cover crops to the garden is with a rotation system. Plant half or one third of your garden with cover crops in the spring. Plant the rest of the garden with annual vegetables and flowers. Each year, rotate the ground that has been in cover crops back into garden crops.

Designate a separate spot in the garden for perennial crops, such as herbs and strawberries, and keep them out of the cover crop rotation.

Cover crop seeds can be broadcast planted in rows or drilled. Seeding depth and rate depend on the species.

For example, larger seeds, such as peas, can be planted up to two inches deep, while smaller seeds, such as clover, need to be closer to surface.

Carefully follow the instructions if included on the package. If you buy seed in bulk, ask the seed company for seeding rate and planting depth recommendations.

A perfect seed bed is not required, and seeding rates can be increased to accommodate rough ground. Keep in mind, however, you may be trying to get a lawnmower through the cover crop later in the year, and smooth ground will make life easier.

The goal is to quickly establish a thick, healthy cover crop stand that can outcompete and smother weeds.

Covers crop may need to be watered at establishment and periodically during the summer. In areas that receive at least 14 inches of rain per year, some cover crop species may not need to be watered at all, though growth will be significantly less.

Plan to mow the cover crop a few times during the year to keep it from going to seed. You can

use a lawnmower, weed eater, hand scythe – or even small livestock such as goats. This is very important. Cover crops in the wrong place are weeds! The goal is to prevent your cover crop from going to seed, while also getting the maximum soil benefit. The residue left after mowing protects the soil and discourages weeds.

Cover Crops through the Seasons

Wyoming winters are cold enough to kill many common cover crops; however, some vetches, clovers and grains may be hardy enough to survive. Also, don’t count on winter to terminate your cover crops. Do your research to avoid surprises in the spring.

Dead cover crop plants serve as valuable mulch that protects the soil and discourages weeds until it’s time to plant again.

WHAT ARE COVER CROPS?

A cover crop is a crop grown specifically to protect and improve the soil or break disease or weed cycles. Unlike cash crops, cover crops are not harvested for market, although in some cases they are grazed by livestock. Common cover crop species in Wyoming are peas, barley, radishes, turnips, sunflowers and grasses.

In early spring, some soil prep work is required to get the area under last year’s cover crop ready for this year’s garden crops. If you are transplanting, consider leaving the cover crop mulch in place and simply clear a small area for each transplant. The mulch will suppress weeds and conserve water through the summer.

If you need a smooth seed bed, cover crop residue can be incorporated with a rototiller several weeks before planting. Remember, tilling the soil increases weed seed germination and removes your protective mulch, so be sure to add a thick layer of straw or leaves after planting to protect the soil, suppress weeds and conserve water.

A summer cover crop can be planted after early spring crops, such as lettuce, have been harvested but before, fall crops such as kale and spinach, are planted. This adds nutrients and reduces weed pressure.

Fall cover crops can be planted in garden beds after summer harvest and allowed to grow until they are winter-killed. Just don’t let them go to seed! Annual cover crops, such as wheat and

barley, grown between garden rows can reduce weeds and protect the soil. Regular mowing helps keep the growth short and thick.

Another method, called relay seeding or inter-cropping, establishes cover crops before garden crops are harvested. For example, a cover crop is planted between the rows of a garden crop that is well established, and once the crop is harvested, the cover crop continues to grow. This requires a careful choice of species and timing of planting but gives the advantage of establishing a cover crop early enough in the fall to allow good growth before a killing frost.

What to Plant

Start with a small section and try a few different seed mixtures to find one that works for you. And remember, don’t let them go to seed!

GRAINS AND GRASSES.

Many tolerate cool, early spring temperatures, rapidly outcompete weeds and provide structure for vining legumes. Grain seeds, such as wheat, barley and oats, are often readily available and inexpensive. Millet is well adapted to the hot temperatures and alkaline soils of Wyoming.

LEGUMES (clover, peas, vetch). These “fix” nitrogen from the atmosphere with the help of symbiotic bacteria living in their roots. This means they take nitrogen from the air (unavailable to plants) and put it into the soil (making it available to plants). For this reason, most cover crop mixtures include at least one legume.

MUSTARD AND BUCKWHEAT. These attract pollinators and beneficial insects to their flowers and can help reduce weed emergence after being incorporated or tilled back into the soil.

RADISHES AND TURNIPS. These can help break up soil compaction and continue to grow beyond the first light frost.

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Buckwheat field

Photo: eukukula/shutterstock.com

What grass species are best for your hayfield or pasture?

MIGHT BE TIME TO ASK SOME QUESTIONS

BY JEREMIAH VARDIMAN

It’s just grass and it grows anywhere, right? Grass species are diverse, and certain conditions favor particular species. By answering the following questions, you can match your grass to your conditions and needs.

What is the purpose or management objective for the field?

Certain grass species perform better for certain applications. For instance, hay production typically requires grasses that produce a lot of erect vegetation with large (wide) leaves. These grasses are typically non-native species, such as smooth brome. Grazing systems can include the same types of grass species as hay production and also include primarily species with have basal leaves, such as a bluegrass. Both native and non-native species are available for these applications.

What about soil, water?

Soil type and quality narrow your choices further, as these characteristics greatly influence how well grass species perform. Soil type is categorized by the amount of sand, silt and clay soil contains. For instance, loams (clay loam, sandy loam, loam, sandy clay loam) are generally considered the happy medium of soils, with the deep, dark, rich loams being the most desirable. These typically benefit a majority of the grass species.

On the other hand, fewer species are able to perform in the extreme types of soil, such as heavy clay, sand and silt. Soil quality, which includes pH and salinity, also contributes to the effect of the soil on grass species.

The last factor that affects a grass species is the availability of water, whether as precipitation, irrigation or both. This gives rise to the following questions:

- Is the water supply unlimited?
- How much precipitation does the field receive during the growing season?
- When is the water available?
- Does water stand in the field for extended periods?
- Does the ground stay moist between irrigation and rain events, or does it dry out?

Selecting suitable grass species is easier if you match the grass to the moisture. For example, intermediate wheatgrass does not perform well in a field with a high water table or standing water, whereas timothy would thrive. Soil type also influences availability of water. For example, a clay soil typically absorbs water more slowly and retains water longer than a sandy soil.

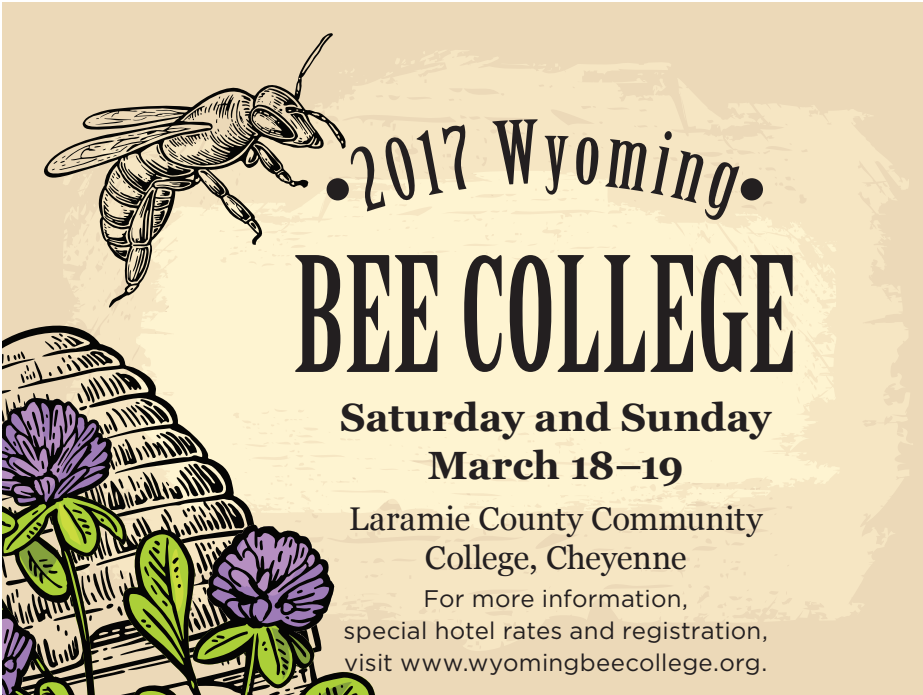
Decision Time

Once you identify the conditions in the pasture or hayfield and your purpose or management objectives, consider species that fit the criteria you determined. You can also contact your local UW Extension educator or discuss your needs with seed companies before purchasing seed.

Jeremiah Vardiman is an agriculture and horticulture educator in Powell. Contact him at (307) 754-8836 or jvardima@uwyo.edu.

10 GRASS SPECIES FOR WYOMING CONDITIONS

- 1. Creeping Foxtail.** A long-lived, cool-season grass that does best on poorly drained soils. It can withstand 35 inches of standing water for 45 days without injury. Adapted for a wide variety of soils, especially sand, loam, clay and peat; also tolerates neutral to high pH soils. This grass is suited for pastures or hay production. Concerns for establishment are the small, week seedling and slow growth development. Can be invasive on native wetlands.
- 2. Intermediate Wheatgrass.** Cool-season, moderate sod-forming grass that does best on well-drained (sandy) soils. Moderately tolerant of alkaline soils (higher pH). Suited to limited or full irrigation.
- 3. Meadow Brome.** Long-lived grass that performs well with consistent and limited irrigation. Adapted to mildly alkaline soils, though sensitive to spring flooding. This grass can be used for hay or pasture and is recommended in mixtures only.
- 4. NewHy Hybrid.** Has a bunch growth habit and is best in pastures, though it can be used for hay production. Tolerates salinity and high pH soils, as well as soils with high water tables. Performs poorly in highly fertile soils and normal irrigation.
- 5. Orchardgrass.** Medium- to long-lived bunch grass adapted for well-drained soils. This plant needs consistent water and is grown for hay, pasture and, occasionally, silage. Sustains summer production well and is recommended in mixtures only.
- 6. Perennial Ryegrass.** Cool-season bunch grass primarily used for pastures. This is not a very vigorous species and should be planted in seed mixtures only or used as a cover crop. Requires consistent water but cannot tolerate standing water and performs poorly at temperatures above 80°F.
- 7. Smooth Brome.** Long-lived, aggressive, sod-forming grass. Best adapted for moist, well-drained soils but grows in a wide range of soil and moisture conditions. Tolerant of alkaline soils though not as tolerant of saline soils. Concerns are slow development to full production, aggressively outcompetes in a mix and recovers slowly when harvested.
- 8. Tall Fescue.** Long-lived, deep-rooted bunch grass that grows in a wide range of soils. Used for hay or pasture, it is adapted to irrigated and semi-irrigated pastures with high fertility. Performs poorly on sandy soils with long periods of drought. Plant endophyte-free varieties to avoid fungal problems with livestock.
- 9. Tall Wheatgrass.** Long-lived bunch grass that can tolerate soils too alkaline or saline for other crops. Performs well in irrigated, sub-irrigated fields or poorly drained, high pH soils. Produces fair quality hay and is a good pasture forage for difficult soil conditions. Concerns are seedlings slow to establish and does not tolerate drought conditions.
- 10. Timothy.** A widely grown forage suitable for wet, fertile soils. Can tolerate standing water but not dry, hot periods during the growing season. Can tolerate a wide variety of soils as long as adequate water is available. Typically harvested for hay; provides quality forage for pastures, though it does not tolerate heavy grazing.



RightRisk.org

Insurance Options for Wyoming Ag Producers

Production agriculture is inherently uncertain, and success rides on a mix of uncontrollable variables, such as weather, falling prices and rising input costs.

That’s why a comprehensive risk management strategy is imperative. And a key component of that strategy for most crop and livestock producers is one or more programs developed under the Federal Crop Insurance umbrella. Options let producers insure levels of revenue against losses ranging from individual crops, livestock and pasture to whole farm revenue.

Crop Insurance

Crop insurance policies are available for most crops grown in Wyoming. The producer’s APH (actual production history) provides the foundation for many of these policies.

Most policies fall into one of these three categories: YP (yield protection), RP (revenue protection) or traditional APH.

YP policies provide coverage against reductions in yield. A producer selects a level of coverage based on APH yield and a price election to determine the revenue guarantee. Indemnity payments are made when the yield drops below the guarantee level.

As an example, assume a wheat grower with a 50 bushel/acre APH yield selects a YP policy with 80 percent coverage. The grower would have an insurable yield of 40 bushels per acre (80 percent of 50 bushel/acre). If the producer’s final yield were to fall to 25 bushel/acre at a price of \$3/bushel, the resulting indemnity payment would be \$45/acre (40 bushel/acre minus 25 bushel/acre times \$3/bushel).

RP policies go a step further by insuring overall revenue against falling commodity prices as well as yield losses; RP policies use the greater of the projected price or the actual harvest price.

RP policies can include a harvest price exclusion (HPE), meaning the revenue guarantee is determined solely by the projected price when the policy is written.

Using the same wheat grower as an example, assume the grower again insures at 80 percent coverage with a projected price of \$3/bushel (no HPE), resulting in a revenue guarantee of \$120/acre (40 bushel/acre times \$3). If the harvest price were to fall to \$2.50/bushel for a final yield of 25 bushel/acre, the producer would be paid an indemnity of \$57.50/acre (25 bushel/acre times \$2.50/bushel, subtracted from \$120/acre).

Traditional APH-based policies are used for some Wyoming crops, including sugar beets, dry beans and potatoes. These policies are similar to YP policies in that they allow producers to insure a percentage of their APH with a specified price election.

Other crops, such as forage seeding, use a maximum dollar amount in place of an APH yield. Check with a local crop insurance agent for policy availability.

Catastrophic coverage (CAT) is available for most crop policies for a flat fee of \$300 per producer. This option covers 50 percent of the APH yield at 55 percent of the price. Depending on the crop, additional buy-up options for CAT may also be available.

Livestock Risk Protection

Livestock producers can protect against declines in market prices with Livestock Risk Protection insurance (LRP). LRP policies are available for feeder and fed cattle, lamb and swine in Wyoming. A producer selects the coverage period, from 13 to 52 weeks, and coverage of 70 to 100 percent of the expected ending price.

Prices are determined by a Chicago Mercantile Exchange-based index for the period selected. It is important to note that the actual cash price received by the producer is not determined by the ending index for the policy. If the ending index falls below the contract price, an indemnity is paid on the difference. Limitations specific to each type of policy include age, weights and number of total head insured.

Livestock Gross Margin (LGM) insurance takes LRP price insurance a step further by allowing producers to protect against declines in gross margin due to increases in feed costs or falling livestock prices. LGM is available for fed cattle, dairy and swine. LGM policies use a complex formula to determine actual revenue levels at the end of the insured period; indemnities are paid when the ending gross margin falls below the contracted revenue guarantee.

The Dairy Margin Protection Program (or MPP-D) is administered by the Farm Service Agency (FSA) and provides coverage against margins on milk production falling below the coverage purchased. The margin (between milk and feed prices) is determined by FSA and is calculated using the National Agricultural Statistics Service and Agricultural Marketing Service prices for alfalfa hay, corn and soybean meal.

Producers must first establish a production history using their highest annual milk production year from 2011-2013. Dairies without at least 12 consecutive months of milk marketings are considered new operations; in such cases a production history can be established by estimating yearly milk production using either the first full month’s production or herd size. Once a production history is established, coverage from 25 to 90 percent of the established marketing history can be purchased for margins of \$4.50 to \$8/cwt (in \$.50 increments). Producers can purchase catastrophic coverage (CAT) for a \$100 sign-up fee; CAT pays 90 percent of a producer’s production history at the \$4/cwt margin level. Payments are made when the actual production margin is lower than the coverage level for a consecutive two-month period. Sign-up for 2018 coverage ends in September 2017.



Forage Insurance

Rainfall index pasture, rangeland, forage insurance (RI-PRF) is available to Wyoming producers. This policy relies on National Oceanic and Atmospheric Administration (NOAA) rainfall index data as an index for pasture productivity on 17-by-17-mile grid areas. RI-PRF offers protection using the rainfall index for two-month intervals over a year. Coverage may be purchased for either native range on either private or public land or for hay land where forage is mechanically harvested at least once a year. Producers can select a productivity factor of 60 to 150 percent of the county base value and coverage from 70 to 90 percent. Producers must choose more than one interval and a coverage level of at least 30 and no more than 70 percent on any one interval; intervals may not be consecutive. Indemnities are paid when the ending index drops below the coverage selected. Producers should note that actual rainfall received may not coincide with the grid index.

Forage insurance similar to an APH-based policy is available for producers of alfalfa and alfalfa-grass mixes harvested for hay. The coverage level available for this policy varies annually, as forage prices are adjusted yearly. Stand populations must meet minimum requirements, and coverage is available from 50 to 75 percent of the established yield at the determined price for an existing stand. Producers who are eligible for the Supplemental Coverage Option (SCO) can increase their coverage up to 86 percent, and buy-up under CAT coverage is also available in most areas.

Non-insured Crop Disaster Assistance Program (NAP) coverage is available through FSA and provides protection to producers who are not otherwise covered by traditional crop insurance policies. Under NAP, producers can insure yields at 50 percent coverage and 55 percent of the market price. Pasture or crops planted or maintained for grazing may be insured under NAP. The NAP buy-up option may allow operators to increase coverage from 50 to 65 percent for eligible crops at 100 percent of the market price determined by FSA. Service fees are capped at \$250 per crop and \$750 per producer. Buy-up premiums are capped at \$6,250. Although grazing policies are not eligible for buy-up coverage, producers may opt for concurrent enrollment with NAP and RI-PRF coverage.

Whole Farm Revenue Protection

Whole Farm Revenue Protection (WFRP) insurance is designed to provide coverage for all commodities produced on a farm or ranch under a single policy. This coverage could be of particular benefit to specialty crop growers, specialty livestock producers, direct farm marketers, vegetable growers and other farm operations that might not be covered under traditional crop insurance policies or other risk management instruments.

WFRP differs from other crop insurance in that it provides protection against declines in a farm’s gross revenue due to an unavoidable natural cause; up to \$8.5 million is insurable at various coverage levels, with covered losses determined after the farm’s fiscal year has ended.

WFRP provides coverage for all farm commodities except timber products, livestock for show or sport, and pets. WFRP can provide replant coverage for annual crops, except those covered by another crop insurance policy, equal to the cost of replanting or a maximum of 20 percent of the expected revenue. WFRP can be used in conjunction with other crop insurance policies; premiums and coverages are reduced depending on the protection offered by the other policies (CAT coverage makes a producer ineligible for WFRP).

Any participating farm can insure gross revenue up to \$10 million at 85 percent coverage. For insured revenue exceeding \$10 million, coverage levels decrease. To be insured at 80 or 85 percent coverage, farms must meet the diversity requirement of at least three different commodities grown or raised. To be a counted, revenue for a commodity must represent at least 8.3 percent of the total revenue insured. Insured revenue is determined from a farm’s five-year production history and IRS Schedule F tax returns. Indemnities are paid when actual gross revenue falls below the guarantee level.

James Sedman is a consultant to the Department of Agricultural and Applied Economics in the University of Wyoming College of Agriculture and Natural Resources, and John Hewlett is a farm and ranch management specialist in the department. Contact Hewlett at (307) 766-2166 or hewlett@uwyo.edu.

RIGHTRISK.ORG

RightRisk.org is a premier site for risk management information and online tools, including the Risk Navigator toolbox, offering producers the chance to better manage risk in their operation. Visit RightRisk.org to use tools, view producer profiles, and learn more.

TOOLS AVAILABLE

- Risk Scenario Planner
- Enterprise Risk Analyzer
- RD Financial
- Machine Risk Calculator
- Risk Navigator Toolbox
- A Lasting Legacy

ONLINE RESOURCES

DAIRY MARGIN PROTECTION DECISION SUPPORT TOOL

Visit: www.fsa.usda.gov/programs-and-services/Dairy-MPP/index

- Select “Decision Tool” from the menu
- The tool lets producers select coverage levels based on production history and compare payment forecasts with the selected coverage level.
- Producers can also view current listed prices for feedstuffs on the website.

RI-PRF RESOURCES

Visit: maps.agforceusa.com/prf/ri

- The site includes a grid locator tool for producers to determine the grid(s) for their location.
- The decision support tool helps producers decide on coverage levels and view historical indices and actuarial information.

RISK MANAGEMENT AGENCY

Risk management products and programs for specialty crop and specialty livestock operations are available through the USDA Farm Service Agency and Risk Management Agency. Vist RightRisk.org or <http://riskmgt.uwagec.org/ProductionRisk/policy51.pdf>

NEW IN 2017

ACTUAL PRODUCTION HISTORY — YIELD EXCLUSION

This new program gives producers the option to exclude low yields from their Actual Production History (APH). Options vary by crop, policy type and production year. If exclusion lowers APH to fewer than four crop years, T-yields will be substituted to establish the minimum 4-year base period. Producers choose between the following options: APH yield exclusion, yield adjustment or trend adjustment option. An online mapping tool helps producers identify eligible crops and crop years by county is at <http://bit.ly/rma-map>. For more information, visit www.rma.usda.gov or your local crop insurance agent.

2017 DEADLINES

CROP, FORAGE AND WHOLE FARM

- Crop insurance for most spring-planted crops: March 15 (final planting dates are crop-specific)
- Crop insurance for most fall-planted crops: September 30 (final planting dates are crop-specific)

FORAGE INSURANCE

- Sales closing: September 30
- Underwriting report: October 15
- Acreage reporting: November 15

RAINFALL INDEX FOR PASTURE, RANGELAND, FORAGE (RI-PRF)

- Sales closing and reporting: November 15



Dairy Margin Protection Decision Support Tool



Right Risk
www.rightrisk.org



RI-PRF Resources



Production History Map



Risk Management Agency Policy Paper

Get the family together

TO ENSURE YOUR HOME ON THE RANGE LASTS

BY BLAKE HAUPTMAN

I’ve seen firsthand what can happen when family members can’t reconcile differences.

I grew up in a large ranching family and have worked on other ranches. From my experiences and listening to experts on the subject, I’ve come to believe most everything we accomplish on the ranch boils down to how well we work and communicate with the people involved in the business. That’s why it’s important to be proactive and have family meetings and discussions before you reach a point of no return.

With more ranch families facing tighter budgets and considering changes to their operations, it is important to work through potential conflicts and make decisions in an organized, fair-minded way. In too many cases, it isn’t the lack of production or output that leads to a ranch’s downfall. It’s being unable to resolve the people issues that leads to its demise.

University of Wyoming Extension Educators and other professional mediators can help facilitate family discussions and meetings. They can provide guidance on how to run a family meeting, discuss family roles and responsibilities, explore enterprise options, and form discussion groups.

Create a Lasting Legacy

Why is it so hard to transition management of a farm or ranch or pass it on as an inheritance? The RightRisk education team, made up of University of Wyoming Extension and extension professionals from other western states, studied the difficulties and successes to create Ag Legacy, a series of free online courses to help rural families envision and secure their future.

The Lasting Legacy and Management Transition courses from RightRisk.org guide agriculture producers and other rural business owners through changes in ownership and management.

Another free resource that can help move your conversations forward is UW Extension’s “Passing It On” guide, an estate planning resource for Wyoming farmers and ranchers. These resources can be found at <http://bit.ly/ag-succession>.

Making management and business decisions is challenging – especially during periods of financial stress and if the ranch supports more than one family – but estate planning and developing strategies to resolve conflicts are crucial for families looking to pass the operation on to the next generation.



Ag Succession Links

Blake Hauptman is a UW Extension area educator serving Campbell, Crook, Johnson, Sheridan and Weston counties. Contact him at (307) 283-1192 or bhauptma@uwyo.edu.

10 TIPS FOR WORKING THROUGH TOUGH SITUATIONS

1. Maintain an open and clear line of communication between family members, employees and others who are part of the ranch.
2. Consider establishing a business organizational chart that includes shareholders and board of directors and outlines each person’s roles and responsibilities.
3. Make sure everyone feels heard, including in-laws, off-the-ranch family members and employees.
4. Be open to change, and set up scheduled meetings to work on the business and discuss new ideas.
5. Present your ideas without coming off as condescending or discrediting how the past generation has managed things.
6. During discussions, listen to understand, not just to form a response.
7. Recognize that good employees and family members may not be motivated solely by money. They may want to feel invested in the business, have input on management decisions and enjoy life outside the ranch.
8. Refrain from hiring employees or family members only for they are good at; instead think what needs to be done.
9. Don’t shy away from difficult situations (such as estate planning), but confront them in a positive manner before they become bigger issues.
10. Don’t be afraid to ask for outside help to resolve a conflict, but make sure other family members know your intentions.

What makes a house part of the land?

BY DONNA HOFFMAN

Landscaping is a major asset realtors use to help sell a property, and developers often include the cost of landscaping in the budget of a new home. They know buyers are not just purchasing a roof over their heads but want a place to call home and perhaps raise a family and a sanctuary from the outside world.

A house needs landscaping to become a part of the land. Landscaping gives a return on investment and provides visual appeal. Landscaping can provide protection in the form of windbreaks and snowdrift development in the harshest cold, as well as shade on the hottest days. For the family living on a parcel of land, landscaping might provide privacy and barriers from noise, traffic and unsightly views.

DIY or Get Professional Help

An initial landscape for a new home site may cost between 10 to 20 percent of the total value, and a landscape retrofit or rejuvenation could run about 15 percent of the property value. Often, a home with no landscaping, however, will sit

on the market. Homeowners can get ahead of the game by planning and developing their home’s landscape for their own enjoyment. If well maintained, an attractive landscape pays back the investment by helping the home sell and providing a refuge for current and future owners.

The green industry is full of creative and hardworking professionals ready to help homeowners develop a beautiful and useful landscape. However, with a bit of research on plant materials and how the weather and climate interact on the site, as well as good planning for how the space will be used, landscaping can be a good DIY project. For families, it could be a great way to get younger members involved, as well as train them to become good homeowners in the future.

Beautiful, Prosperous Communities

Individual homeowners investing in their own landscape contribute to a well landscaped neighborhood. As more neighborhoods develop



Photo: psynovec/shutterstock.com

good landscaping, which over time matures, these contribute to well landscaped communities and towns. Property values increase, and the community becomes more welcoming to new residents and businesses adding jobs.

All this potential is unlocked when homeowners sit down, perhaps with other family members, and consider how much space is needed for the following:

- Services, including utilities and parking
- Storage of tools, equipment and toys
- Private spaces, usually the back yard and gardens

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Don’t let parasites vex your chickens

PRACTICE ABCs OF IPM (INTEGRATED PEST MANAGEMENT) FOR A HEALTHY FLOCK

BY SCOTT SCHELL

Whether you have two birds or a thousand, managing poultry parasites begins with meeting your flock’s basic needs. Provide sufficient food, water and shelter to reduce health stresses that make poultry more susceptible to disease, parasites or both.

In most cases, healthy animals living in conditions that mimic their natural habitat can tolerate low populations of parasites with no apparent health cost.

Chickens in a coop lack this advantage. Excellent care helps backyard chickens develop strong immune systems to suppress populations of parasites; however, ectoparasites, such as mites and lice, can still cause problems.

I is for Integrated

The “I” in IPM stands for integrated. This means don’t rely on just one pest management tool for control. And remember, preventing problems is better than seeking cures.

Start with the coop. The number of birds in the flock determines minimum size. No overcrowding! Artificial light and perhaps a heat lamp inside will boost egg production and reduce environmental stresses on the birds in winter.

Sanitation is a key tool for managing the ectoparasites that feed on your birds. Even the cleanest coops accumulate feathers, dander and feces that can harbor pests, and parasites find cracks and crevices make excellent habitat. Whether you buy or build your chicken coop, make sure it is easy to clean and made of materials that can be sanitized.

Keep non-native species of wild birds, such as English sparrows, starlings and pigeons, out of your flock’s living space. They can transmit parasites and pathogens to domestic poultry.

Practice good poultry manure management with complete removal and composting to reduce poultry health problems vectored by litter beetles and filth flies.

Help chickens reduce some ectoparasite populations on their own by encouraging “dusting,” a natural behavior in which they flap their wings and coat their feathers in dust. The simplest mix is half peat moss and half wood

ashes in a plastic container, such as a dish pan.

P is for Pest

Identification of the pest is a critical step in IPM. The most common external parasites on chickens in Wyoming’s cold, dry climate are lice and mites.

The red poultry mite, also known as a chicken mite, is a frequent pest in chicken coops. The Northern fowl mite is also common but differs from the red poultry mite in that it completes its life cycle on the birds.

Other ectoparasites that attack poultry are bed bugs and their relatives, such as the poultry bug and swallow bug.

Multiple species of black flies, commonly known as buffalo or turkey gnats, can affect poultry flocks living close to rivers and streams. The black flies blood-feed heavily on the heads of turkeys and combs and wattles of chickens, causing extreme duress. Birds being attacked retreat into the coop, as the black flies prefer to feed in daylight and won’t enter a dark shelter.

The options for treating parasites are many and varied. Once the pest is identified, you can select a treatment that matches your management philosophy. Start by consulting your veterinarian, your local UW Extension educator and extension publications.

M is for Management

Frequent, close visual examinations can help you catch problems early. The areas of the body the bird has difficulty preening are where parasites usually attack and feed first. Examine the vent (or more accurately, the cloaca), head and feet to find pests or signs of feeding damage on the skin.



Dirt flies as a chicken enjoys a summer dust bath. This natural behavior is how chickens clean their feathers.

Use a headlamp to examine the birds at night. Part the feathers to examine skin for mites, such as red poultry mites, that spend daylight hours off the birds and feed only after dark. Another advantage of night mite checks? Chickens are easier to handle then.

The primary goal of a conscientious poultry keeper – on any scale – is to maintain healthy birds by meeting their basic needs of clean water, adequate nutritious food and shelter from inclement weather and predators.

“External Parasites of Poultry” by Jacquie Jacob of the University of Kentucky is an excellent resource for learning about common poultry parasites and treatment options. (<http://bit.ly/poultry-parasite>)

Watch this University of Wyoming Extension “From the Ground Up” video on backyard chickens at <http://bit.ly/backyard-poultry>.



External
Parasites of
Poultry



Backyard
Chickens

Scott Schell is an entomology (insect) specialist in the UW College of Agriculture and Natural Resources Department of Ecosystem Science and Management. Contact him at (307) 766-2508 or sschell@uwyo.edu.

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- Public space, usually the front yard and driveway
- The answers guide decisions about plants, trees and shrubs and placement to meet the identified needs. From that, a plan takes shape.

Maturity and Renewal

From small city lots to large rural homesteads, the land provides limits and potential for specific uses, which may change over the lifetimes and succession of owners. Mature landscapes provide more shade and better windbreaks, but they also benefit from change and renewal. Maintenance projects can bring a new look to any area.

A well planned and maintained landscape integrates a home with its grounds, provides opportunities for outdoor enjoyment and a sanctuary from the outside world. Call your local UW Extension educator to learn more about enhancing yours.

Donna Hoffman is the county horticulturist in the Natrona County office of the University of Wyoming Extension. Contact her at (307) 235-9400 or dhoffman@natronacounty-wy.gov.

Calving system reduces pathogen exposure, boosts calf survival

BY SCOTT COTTON

New calves smell, taste and touch everything around them, perhaps exposing them to the greatest threat of their young lives.

Newborn calves in pens or pastures drop onto ground that may be saturated with excrement, body fluids and other compounds. They are immediately bombarded by bacteria such as *Escherichia* coliform and *Salmonella*, as well as rotavirus, coronavirus, and *Cryptosporidium* protozoa, all of which can cause diarrhea or “scours.”

The colostrum they consume within the first 48 hours provides antibodies and other support from their mothers, but disease vectors are usually present in the herd and on the ground where the herd is calving. Treating sick calves can be costly and exhausting.

Break Disease Cycle

Since 2005, researchers at several land-grant universities, including David R. Smith of the University of Nebraska-Lincoln, have investigated methods to break this disease cycle. Their efforts focus on identifying and interrupting the agent, host, environmental and other factors that lead to scours in cattle herds.

The disease vectors are usually present in the adult cattle throughout the year and spread via

mucus, manure and afterbirth on calving grounds. Interrupting the “agents” starts with a good health pre-conditioning program that includes regular vaccinations. Because calves absorb antibodies from colostrum and milk, the healthier the cow, the healthier the calf. It has also been noted that calves born to older cows that have developed more antibodies tend to be more resistant than calves born to first-calf heifers.

Research shows calves are susceptible to infection from 7 to 14 days of age. Calves usually die from scours at one to two weeks after birth. Thereafter, infected calves begin to shed and share disease vectors with other calves.

The 7- to 10-day window of infection and spread also holds a key to controlling scours.

Move Cow-Calf Pairs

From the multi-year research a movement protocol, called the Sandhills Calving System, was developed. By reducing exposure to high pathogen dose-loads, it can reduce calf losses, vaccination costs, labor and frustration.

The basic tenets of this calving system include the following:

- Segregate cow-calf pairs according to calves’ age to prevent direct or indirect transmissions of pathogens. The window of infection is 7 to 14 days, so separating into groups with calves born at least 10 days apart breaks the infection chain.
- Schedule movement of cows so un-calved adults move to clean pasture every 10 days.

- Separate heifers from older cows; the heifers and their calves have lower immunities.

Easier Than it Might Seem

There has been some initial resistance from cattle producers. Nevertheless, producers who have adopted the system using larger subdivided pastures have reported significant reductions of diarrhea. Tagging calves segregated by groups is simpler, and usually the high-risk animals are either together or obvious within a healthy group. This can reduce labor and medical costs for the livestock manager.

A 200-acre pasture can be subdivided into five 40-acre paddocks, allowing newly calved pairs to be on fairly clean ground, sharing vectors only with members of their calving group. This reduces sickness and death by breaking links in the calf scours chain.

To learn more about management practices to mitigate disease risks in cattle herds, contact a member of the UW Extension Agriculture and Horticulture Initiative Team.

Scott Cotton is the UW Extension area educator serving Converse, Natrona and Niobrara counties. His specialties include range management, livestock production, rural acreage management and agriculture and disaster resilience. Contact him at (307) 235-9400 or scotton1@uwyo.edu.

How to choose an estrous synch protocol for beef females

BY CHANCE MARSHALL

Common questions are “Which artificial insemination protocol is best?” and “Which one will give me the highest conception rates?”

Finding the right estrous synchronization protocol to use in an artificial insemination (AI) program depends largely on the operation and the producer’s management style. Fortunately, many options are available.

Estrus synchronization protocols listed in sire catalogs generally have been subjected to scientific trials and meet the criteria for effective snychronization options when conducted correctly.

Producers who consider the following key factors should find it easier to decide on one that fits their needs.

Body Condition and Herd Health

It is paramount before investing time and money into an AI program that you ensure the cattle have received adequate nutrition, are cycling naturally and are physically prepared to achieve successful pregnancies. Body condition scoring (BCS) is a visual tool to determine body reserves available for breeding. On a 1–9 scale, 1 is emaciated and 9 is obese. Cows should be

about a BCS 5.5 and heifers about a BCS 6 prior to breeding. If cattle are thin, they are less likely to respond to estrus synchronization treatments, and AI may not be financially feasible.

Cows vs. Heifers

It is also important to consider the group of animals that will be going through the synchronization protocol. Because heifers are still developing, timing of treatments may differ from that for mature cows. To maximize success, some protocols are designed for cows and others are specifically for heifers.

Time and Money

When selecting a protocol, consider how much time and labor are available for heat detection and the costs associated with different protocols. Protocols that require a lot of heat detection are less expensive and require fewer treatments in the squeeze chute. Conversely, protocols that do not require heat detection (e.g. fixed-time AI protocols) are typically more expensive and require more treatments in the squeeze chute. Sire catalogs usually include a comparison of protocols before the estrus synchronization protocols section. This table specifically compares protocol costs and labor demands.

It should be noted that a heat detection protocol requires substantial time for identifying cattle that show standing heat. Misidentification

of standing heat or failure to identify when cattle are in standing heat will directly affect success in a breeding program.

Facilities and Handling

Are working facilities safe and efficient? Do they minimize stress to the cattle? Not every operation is equipped with the facilities to work cattle through a chute three or four times over a 10-day period. What’s more, each time animals are handled, they are exposed to stress that can hinder success. Being realistic about your abilities to handle cattle multiple times may help you determine whether to use a heat detection protocol or a fixed-time protocol.

The many estrus synchronization options available make it possible to artificially inseminate cattle in almost any situation. Whether cost, time, labor or facilities are the limiting factors, there are likely options to fit your operation. The key to developing a successful AI program is to determine which protocol fits your situation and comply with it in all respects.

Chance Marshall is an agriculture and horticulture educator specializing in livestock systems in Fremont, Hot Springs, Washakie, Big Horn and Park counties. Contact him at (307) 332-2363 or cmarsha1@uwyo.edu.

Blizzards are a common threat to livestock

ORGANIZE FEED TO ENSURE WINTER SURVIVAL

BY SCOTT COTTON

Brutal blizzards often occur in early fall, late spring or after a period of mild weather. Worse, they may come when producers are not prepared and hit with greater force and last longer than other storms.

Blizzards can cut survival rates of newborn calves, challenge the metabolism of livestock and block or complicate access to feed. Organizing feed to help cattle survive usually boils down to putting livestock in the right place, putting feed in the right place and being equipped to get feed to cattle.

On most operations that provide winter cattle feed – usually hay and supplements – producers have devised a system based on prior experience with storms. Experience influences where they stack hay, where cattle are grazed during the year and what equipment they buy.

Planning and organization can prepare producers, including next-generation and novice producers, to get feed to their livestock and avoid challenges that come with storms.

Put Livestock in the Right Place

Placing livestock for access to feed is the oldest practice used in Wyoming. Moving cattle to thickets of brush and protected canyon floors are examples.

Range cattle were moved to sheltered sites where feed was available whenever bad weather was expected. Producers identified and saved sheltered spots for grazing during drifting snow and severe cold and wind chill. Effective managers also found locations where vegetation remained exposed or protruded above snow cover.

Any blizzard survival location requires protective elements, water and a source of feed. Livestock must have a passable route to feed, whether it is stacked, windrowed or left standing.

Moving livestock to feed sources during a blizzard is fraught with risk and not recommended.

Put Feed in the Right Place

Having feed in the right location is usually the top factor for winter cattle survival. If feed is stacked in yards, it helps to use windy sites where snow is blown off rather than accumulates. Because the stacks serve as wind foils that accumulate snow downwind, it is crucial to align stacks and access pathways so they also blow clear. Understanding how your operation’s topography and dominant weather patterns affect snow accumulation helps reduce the chances of feed becoming inaccessible.

Having more than one feed location within a reasonable distance, such as half a mile from livestock, provides alternatives if the snow does not form traditional drift patterns.

In flatter, wind-driven locations, many Wyoming ranchers have erected large wind shelters stocked with water and hay stacked along the inside perimeter. Cattle become familiar with the structure and naturally move to it for shelter, feed and water. Structures can be permanent or temporary but allow producers to travel to the site to feed livestock rather than transport feed. Structures should be sized to accommodate the number of livestock in the vicinity.

Remember, if all animals cannot be sheltered, they will be directly affected by snow drifting downwind of the structure.

The occasional need to move feed in or out is another consideration in choosing an optimal location. Placing major feed distribution points along developed and maintained public roads enhances the likelihood of open access.

And remember to place a few small stacks in unusual locations and know where your neighbors have theirs – just in case.

Invest in Infrastructure

Getting through a blizzard is usually three to five times harder than other storms. Think how a regular 6-inch snow storm over 48 hours compares to a blizzard that drops 38 inches of snow over five days and blows it into drifts eight to ten feet high.

Many infrastructure needs, including equipment and horse power, are dependent on the format of your feedstuffs. If you use small hay bales or loose hay, you may be able to reach these on a snow machine, by horse or on foot and simply hand-feed the hay. In some locations, horse-drawn hay sleds are feasible.

Large bales require larger equipment, which may not easily traverse deep snow. Some producers use equipment such as dozers or crawlers to open pathways for traditional large-bale equipment. In the mountains, some Wyoming producers use large multi-staged snow blowers 8–10 feet wide and 60 inches high to open pathways. During several disastrous blizzards, very large bulldozers were used to drag semi-truck trailers of hay through the snow, and volunteers fed hay from the loads.

Always remember, though, during severe blizzards, most heavy equipment is dedicated to human concerns, not livestock.

Plan for the Big One

Members of the UW Extension Agriculture and Horticulture Initiative Team can help you review your readiness and winter plans. Basing feed locations, livestock positioning and equipment on the worst-case scenario may be expensive, but it could make the difference in your cattle’s survival.

Contact Scott Cotton at (307) 235-9400 or scotton1@uwyo.edu.

2017 beef cow herd outlook: downward trend slows

BY BRIDGER FEUZ

Three major factors affect the market dynamics of the beef industry: the supply of beef, the demand for beef and the status of beef trade. Taking a looking at all three can lend some insight into long-term market trends.

Beef Supply

January 1 beef cow inventory has seen back-to-back years of around 3 percent growth. Starting in 2006, the January 1 cow inventory declined year over year through 2013. The turnaround came in 2014, and 2015 saw moderate growth. The beef inventory increased in 2016 by 3.5 percent over 2015.

January 1, 2017, beef cow inventory increased another 3 percent for a total of 31.2 million head

of beef cows. The number of heifers held back each year gives us a projection for cow numbers the following year. The good news is that it appears herd expansion is slowing, with January 1, 2017, showing a modest 1 percent increase in beef replacement heifers. This is a much lower increase than the previous two years, which resulted in rapid herd expansion. With these numbers, the U.S. calf crop is also expected to see growth this year.

Beef Demand

Beef demand is a combination of the quantity of beef consumed in the U.S. and dollars spent on beef. These two factors form the demand index. The beef demand index – which adjusts for inflation and uses 1990 as the base year and 100 as the value – bottomed out in 1997 and again in

2010 at 75, a 33 percent decline from 1980 levels. Beef demand since 2010 has been strong and continued to grow through 2015. The demand index now sits at 92, which is the highest it has been since 1991. Consumers’ willingness to stick with beef, even with relatively high retail prices, has been a big driver for the demand index.

Beef Trade

The U.S. dollar began to strengthen in 2013, and the trend continued through much of 2016. As a result, export markets were down slightly in 2014 and more significantly through 2016.

The annual net value of U.S. exports (sales of exports minus cost of imports) was negative in 2015 but will likely be close to break-even for 2016. Looking ahead at 2017, the U.S. dollar remains strong against key foreign currencies. This

continues page 12

Beat hail losses with low-cost, high-yield forage crops

BY BRIAN LEE

When hail hit Lingle last July, the storm destroyed research and farm production.

That left researchers and farm managers at the Sustainable Agriculture Research and Extension Center (SAREC) wondering ...

The inevitable early freeze was only weeks away. What could producers do, given the predetermined need for their now-lost production? Whether for ground cover, cattle feed or commodities for market, the goal of production is to sustain a livelihood.

Opportunities arise from necessity, and with SAREC's loss came an unexpected chance for a hail study.

Questions for Producers

Researchers Carrie Eberle, Steve Paisley, Brian Lee and the rest of the SAREC crew asked local producers for guidance.

They asked what crops to try and how to handle residue from standing corn shredded in the field. They quickly put together a research plan for producing winter grazing forage for cattle. (After the farm's corn acres were destroyed, chopping and feeding the stalks was uneconomical.

Four tillage and field operation combinations were implemented to find the best way to knock down corn stalks and establish the new crop. The field operations were shredding the stalks, discing the stalks, direct drill plus herbicide, and a combination of shredding, discing and using a land leveler.

Four kinds of seeds were planted to measure performance. The plant varieties were winter

wheat, rye, triticale, half of the previous seeding rate of triticale and sorghum. Grains were the only option because broadleaf herbicide had been applied to the corn earlier in the year.

Picture a matrix of five plant varieties and one fallow section over four field management options.

Affordable Winter Feed

Biomass yields were measured on October 10, and associated costs per acre for the crops and operations were calculated.

Triticale, winter wheat and rye performed well over all operations, averaging over 1,800 dry pounds of forage per acre. Sorghum didn't do as well; mostly this was due to the late planting (August 20) and early frosts that kept it from putting on growth.

In the end, we were able to produce some very affordable winter feed. Compare the following to alfalfa hay, which at \$90 to \$145 per ton, resulted in costs between \$1.17 and \$1.89 per animal unit day (AUD). All prices are averaged across operations.

- Winter wheat forage was produced for \$.83 per AUD.
- Rye forage was produced for \$1.03 per AUD.
- Triticale forage was produced for \$1.38 per AUD.

Looking Ahead

This project will continue through fall 2017. We will be looking at nutritional value of the different crops as well as the impact of operation/variety combination on the subsequent corn crop.

The data reported here are preliminary, and a complete assessment of the cropping systems will be done at the completion of the project.

Until then, we've shown some options for low-cost, high-yield winter feed may be available to those who can react quickly after late-season hail losses.

To help producers determine if any of the operation/variety combinations might work for them, complete results are available at <http://bit.ly/forage-research>.



Forage Research
bit.ly/forage-research

Brian Lee is a research scientist in the UW Department of Agricultural and Applied Economics. He is located at the Sustainable Agriculture Research and Extension Center near Lingle. Contact him at (307) 837-2000 or blee@uwyo.edu.



Triticale planted in August at the Sustainable Agriculture and Research Center near Lingle provided forage for heifers in November.

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continued strength of the dollar will impact beef trade through 2017.

Calf prices in 2016 continued trending downward from 2015. Prices in 2016 for 500- to 600-pound steer calves averaged \$180 per cwt. at the beginning of the year but saw steady declines through October, bottoming out at \$125. Prices did rally at the end of the year, closing out at \$145.

While the 2016 decline in cow value was not as dramatic as in 2015, it was still significant.

So What Will 2017 Look Like?

We are faced with an increasing supply of cattle as well as a down export market. The Livestock Marketing Information Center is projecting prices for 500- to 600-pound steer calves to be between \$138 and \$145 per cwt. in the third quarter of the

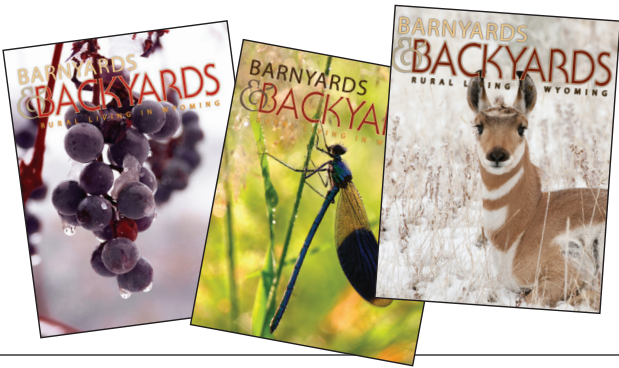
year and \$133-\$142 in the fourth quarter. While this is not great news, the declining prices have now slowed significantly.

Bridger Feuz is the University of Wyoming Extension livestock marketing specialist. Contact him at (307) 783-0570 or bmfeuz@uwyo.edu.

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