2020, Issue 4

Grow With Us

Lakeland Agricultural Research Association

July/August 2020

Four Principles of Pasture Management

Beef Cattle Research Council

Pasture is a key component of beef cattle operations and one definitely worth managing. At first glance, grazing a pasture may appear as simple as placing cattle in a fenced area with a water source. However, practising effective grazing management is an art and a science.

Pasture conditions and types vary widely from native grassland to tame forage, with stands comprised of many diverse plants or perhaps just a simple mixture of a few grass or legume species. Regardless of the pasture type, focusing on a few key principles can help maintain forage productivity, ensure stand longevity, sustain a healthy plant community, conserve water, and protect soils. Here are four main factors to remember:

Balance forage supply and livestock demand. Avoid overstocking a pasture by ensuring there is adequate forage available for the number of cattle, and the length of time the cattle will be grazing. BCRC's Carrying Capacity Calculator can help producers determine a starting point for their stocking rates. In addition to grazing, remember to factor in a utilization rate to account for trampling, wildlife, or insects. General guidelines for native pasture suggest a utilization rate of 25-50%, and for tame pasture a utilization rate of 50-75% is a built-in buffer that allows the pasture to sustain itself.

Distribute grazing pressure across the pasture. When left on their own, cattle will prefer to graze moist, productive areas of a pasture and avoid dry hilltops where the forage quality may be lower. Cattle can be managed to graze a pasture in a relatively uniform manner using different methods depending on forage type, topography, and goals. Temporary or permanent fencing, placement of salt and mineral, and stock water locations can all be strategically maneuvered to effectively move cattle. Working with available resources is important, as outlined in this recent blog and webinar about adaptive grazing management.

Provide rest for pasture plants during the growing season to help plants recover. Forage plants need time to rest to allow them to replenish their energy reserves and prepare for the next grazing event. If plants don't have adequate time to recover, pasture productivity can dwindle, and pastures can become susceptible to weed infestations, soil erosion and winterkill.

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Four Principles of Pasture Management

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Avoid grazing during sensitive times. Grazing too early can set a pasture back for the whole season. A general rule of thumb is for every day grazing is deferred in the spring, you gain two days of grazing in the fall. Other situations such as grazing wetlands or species at risk habitat, may benefit from deferring grazing until nesting season is over or flood potential has subsided.

Litter is often called a "rancher's insurance policy" because it helps pasture systems retain moisture in dry years and can help maintain forage yields. Manage pastures to retain adequate "litter" cover.

Litter is the dead or decaying plant residue left from previous growing seasons and it is a valuable resource in both tame and native pasture stands. Litter insulates the soil, keeping it warm in the winter, and cool in the summer. As it breaks down, litter provides nutrients to the surrounding plants, and it is a wonderful safeguard for reducing soil erosion and water loss due to evaporation.

There are many different types of grazing systems promoted by groups and individual producers, including, but not limited to, rest-rotation, AMP (adaptive multi-paddock), intensive, or strip grazing. While each system has its own benefits and drawbacks, almost all systems factor in the four key principles of grazing management. By carefully managing pasture as the valuable resource that it is, forage production and range health can be sustained for this season, and for many years to come.

Sources:

http://www.beefresearch.ca/blog/this-grazing-season-remember-the-four-principles-of-pasture-management/

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Regional Silage Trials

Stephanie Bilodeau, LARA

This year the regional Silage Trial (forage production) will incorporate Snowbird, a faba bean variety, in the Pea/cereal trial. The RST pea/cereal trial compares growing traditional cereal silage as apposed to growing a pulse and cereal mixture.

Snowbird: is a medium seed size and a high yielding faba bean variety. It is one of the common varieties grown in a cooler climate with higher amounts of moisture. It is a good variety to grow for feed production as it has low –tannin which is easy for livestock to digest.
Faba Beans also have good protein and are high in starch therefore they are a good source of energy for cattle.

Look out for our RST pea/cereal trial at our LARA Sites in:

- **Fort Kent**
- **St. Paul**

Also the data from this trial can be found in our **LARA Annual Report for the year 2020**.

Sources:

http://www.omafra.gov.on.ca/english/livestock/dairy/facts/16-057.htm

https://saskpulse.com/resources/magazine/pulse-point/articles/forage-matters/

Call the LARA Office for help with:

Age Verification, Feed Testing, Environmental Farm Plans, Growing Forward Stewardship Applications and more.

780.826.7260

Feed Testing

We offer two free feed tests to all producers in the MD of Bonnyville, Lac La Biche County, Smoky Lake County and the County of St. Paul.

Call the office to borrow a bale probe or to drop off a sample: 780.826.7260

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2020 Calendar of Events

Smoky Lake Field Day	July 23, 2020	Smoky Lake County
Fort Kent Field Day	July 29, 2020	Fort Kent Research site
St. Paul Field Day	August 5, 2020	County of St. Paul
Lac La Biche Field Day	August 12, 2020	Lac La Biche County
Soil Health Academy Webinar series 1	August 4, 2020	https://us02web.zoom.us/webinar/register/WN_DRGWahLnROiE4uKbLXH2Mw
Soil Health Academy Webinar series 2	August 18, 2020	https://us02web.zoom.us/webinar/register/WN_VXPoMv-vTqWkRaJA8RNqCQ
Soil Health Academy Webinar series 3	September 1, 2020	https://us02web.zoom.us/webinar/register/WN_Ss5YxyylRgCl00XfmJ0-Gg

Call the LARA office at (780) 826-7260 for more information or to register for any of the above events!

LARA, NPARA AND FFGA PRESENT:

Soil Health Webinars

Join Lakeland Agricultural Research Association, Foothills Forage & Grazing Association and North Peace Applied Research Association for these exciting Soil Health themed webinars from the great instructors at Understanding Ag!

Webinar Details:

Soil Building Secrets with Ray Archuleta
Tuesday August 4 at 7:00pm MST
Register:
https://us02web.zoom.us/webinar/register/WN_DRGWahLnROiE4uKbLXH2Mw

Adaptive Grazing - What is it & How to Implement with Dr. Allen Williams
Tuesday August 18 at 7:00pm MST
Register:
https://us02web.zoom.us/webinar/register/WN_VXPoMv-vTqWkRaJA8RNqCQ

Lowering Input Costs & Rejuvenating Soil with Gabe Brown
Tuesday September 1 at 7:00pm MST
Register:
https://us02web.zoom.us/webinar/register/WN_Ss5YxyylRgCl00XfmJ0-Gg

LARA LAKELAND AGRICULTURAL RESEARCH ASSOCIATION

FOOTHILLS FORAGE AND GRAZING ASSOCIATION

NPARA NORTH PEACE APPLIED RESEARCH ASSOCIATION

AB Alberta Beef

GEMSTONE CATTLE COMPANY

Wheat midge thrives in cool, wet conditions

The Western Producer

By: Brian Cross

The insect requires ample moisture early in the spring to complete its life cycle and produce a new generation of adults

There's never a dull moment for a prairie entomologist, especially one that works in a province like Saskatchewan, where the growing season is short and the bugs can be, well … a wee bit vigorous during the short summer season.

In some regards, the 2020 growing season has been relatively quiet as far as costly insect pests are concerned, said Meghan Vankosky, an Agriculture Canada entomologist who co-chairs the Prairie Pest Monitoring Network (PPMN).

Relatively cool temperatures, ample rainfall and wet field conditions are not an ideal environment for a lot of common pests, Vankosky said.

But there are always some pests causing crop damage during the prairie summer, and 2020 is no exception.

"For the most part, most insects respond poorly to cool, wet conditions … but wheat midge are one of the exceptions."

Wheat midge adults are tiny orange-coloured flying insects that are typically observed at dusk under calm conditions. | File photo

Wheat midge adults are tiny orange-coloured flying insects that are typically observed at dusk under calm conditions.

They are poor fliers so they aren't very active in windy conditions. They also tend to lay low during the heat of the day but they thrive in moderate temperatures and high humidity.

To scout for adult midge, growers should go out on a calm evening and observe insect activity around

the heads of the flowering wheat crop or post-anthesis.

Heavy adult wheat midge activity could be conducive to egg laying and larval development.

Unlike many other crop pests, the wheat midge requires ample moisture early in the spring to complete its life cycle and produce a new generation of adult insects.

"If we get adequate rainfall in May and June, then that will trigger the pupation of the wheat midge in the soil, resulting in adult emergence," said Vankosky.

"This year, things are shaping up pretty well for adult emergence to line up with the stage of wheat development where the adult females can actually lay their eggs, so definitely we've been encouraging people to go out and scout…."

In Saskatchewan, provincial entomologist James Tansey says the fall 2019 wheat midge survey suggested potential hotspots in northern growing areas around Lloydminster, Prince Albert and the northeast, near Nipawin.

"We conduct a survey each year of about 420 sites all across the province … and relatively high densities of viable pupae were detected in these areas last year, indicating the potential for problems this year," Tansey said.

Wheat Midge Thrives in cool, wet condition

Continued from previous page..

"What's really important to these animals is climatic conditions. They (the viable wheat midge pupae in the soil) need 25 millimetres of rain before the end of May to continue their life cycle and some parts of the northern growing region received that, so conditions are favourable."

Tansey said the ideal period for detecting adults is nearing an end, but late scouting is better than no scouting at all.

"If guys haven't scouted to this point, it's probably still worth getting out there," he said.

"They may see only eggs but ideally they're still scouting for adults.

He said the economic thresholds for chemical control are posted on the ministry website.

Producers can review the 2020 risk map at the Prairie Pest Monitoring Network's new website at prairiepest.ca.

The ministry is looking for producers to take part in the 2020 midge survey. The fall survey, which provides data for the 2021 risk map, involves collecting soil cores from wheat fields after harvest.

Growers who wish to participate should contact Tansey at Saskatchewan Agriculture.

Prairie producers should also be on the lookout for diamondback moth activity.

Vankosky said high numbers of diamondback moths have been showing up in pheromone traps across the West, suggesting the potential for economic damage in some areas.

High adult moth numbers can be an indication of high larvae populations and significant yield loss potential in canola.

Diamondback moths don't overwinter on the Canadian Prairies but if adult moths arrive early enough in the year, they can produce as many as five or six generations in a single growing season.

"We have seen a big influx in diamondback moths in some areas so it's probably a good idea for growers to be scouting for these," Tansey said.

High adult populations have been reported around Meadow Lake, in the province's northwest and Cadillac in the southwest.

Larval feeding has also been reported over the last couple weeks on relatively young canola plants in the province's southeast.

Scouting protocols for diamondback moths involve counting larvae in canola plants pulled from a square metre of a flowering or podded canola crop.

Thresholds for chemical control are 100 to 150 larvae per sq. metre in immature or flowering crops, increasing to 200 or 300 larvae in a crop with flowers and pods.

For more information on scouting, visit the Canola Council of Canada

Source:

https://www.producer.com/2020/07/wheat-midge-thrives-in-cool-wet-conditions/

Forage U-Pick: A new interactive forage species selection tool for Western Canada

Beef Cattle Research Council

By: BeefResearch3

The Forage U-Pick project was supported by over 13 different organizations through contributions of time and expertise. Funding was provided by the Beef Cattle Research Council, Alberta Beef, Forage and Grazing Centre, Saskatchewan Forage Council, and the Government of British Columbia and Government of Canada through the Canadian Agricultural Partnership.

Forages for hay and pasture are essential for beef production. Ensuring forage species are well-matched to growing conditions improves establishment rates, yield, vigour and quality.

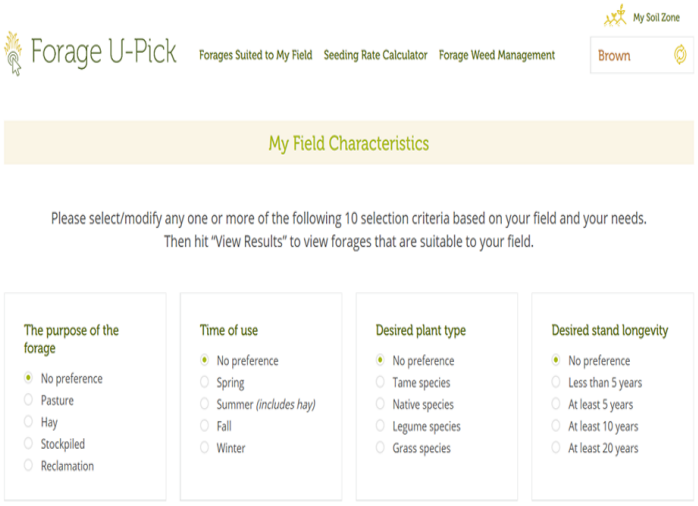
This can reduce costs, improve utilization and number of grazing days, and increase profitability. Using accurate production information can produce positive impacts on beef and forage productivity, sustainability, and competitiveness.

Increasing forage productivity by just 0.1 tons/acre on 160 acres, through proper selection, seeding rate or weed control, produces 16 tons more forage per quarter section per year.

Forage U-Pick is a tool designed to provide users with information for forage selection, forage seeding rates, and weed management. While every effort has been made to compile accurate and useful information, this tool should be considered a starting point for decision-making. When selecting a forage or forage mix, the Forage U-Pick tool should be used in conjunction with additional feedback from local professionals, other available technical resources, and the latest forage research.

What can Forage U-Pick do for you?

Forage U-Pick can help you find the forage species that are best-suited to your field, and your end use. *Forages Suited to My Field* allows you to choose your province, your soil zone or a regional zone and then starts with a list of forage species that are suited to your selected zone.



Researchers have been documenting forages suitability to specific zones, under different climatic conditions, for 60 years. That list is updated continually, and all those updates are included in Forage U-Pick!

The Forage U-Pick tool allows you to select specific criteria to narrow down the options of forages best-suited to your situation. The most important criteria will be "in my field" or "how I want to use the forage." There are 10 criteria to choose from, but selecting your top two or three priorities will give you the most species results and options. If you want to see all the forage species suited to your zone, simply leave all as "no preference" before selecting view results.

More information about each forage species can be found when you click on each individual species picture and name. Detailed species information was provided from the BC Rangeland Seeding Manual in combination with other provincial re-

Forage U-Pick: A new interactive forage species selection tool for Western Canada

Continued...

Single fields often have combinations of many different characteristics such as saline and non-saline, or different flooding durations. For these areas of variable topography or field characteristics, consider running different scenarios for different areas of your field.

The seeding rate calculator is used once you have selected the forages you want to seed. It will ensure that you put the right amount of seed in the ground to have the best possible chance for a good stand.

Why is a calculator so important? Say you'd like 20% hybrid bromegrass and 20% tall fescue in your field when the stand establishes. Even though you want 20% of each grass, seed size and the number of seeds per pound will vary, so you won't seed both of those forages at the same rate.

Another important factor to consider is the Pure Live Seed (PLS) of the seed lot you are purchasing. Pure Live Seed is the per cent germination multiplied by the per cent purity. If a seed lot has lower germination, more seeds must be planted in order to ensure that the right number of seedlings will begin to grow. Forage U-Pick starts with default minimums, based on the Canada Seeds Act, where possible. It is best to work with your seed supplier to determine accurate germination and purity values for the seed you have purchased.

My Field Characteristics Example: If you enter Moderate Salinity, U-Pick will only return forages that are suited to moderate salinity. Those not suitable will be shaded out.

Forage U-Pick has also provided guidance for scenarios where an increased seeding rate will help set the stage for a successful forage stand. Share the table you create at the bottom of the calculator with your seed supplier.

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Economic success in forages can increase with proper weed control. This section provides great resources for weed identification, provincial information and overviews of common weeds in forages for each of the zones in western Canada. The presence of weeds during establishment, and those in established stands, often vary greatly. Both can have an economic impact on forage stands.

The goal of the Forage U-Pick project is to help Western Canadian producers be successful by selecting the best forages for individual conditions, and ensuring that seeding rates are adequate for healthy, profitable stands.

Sources:

http://www.beefresearch.ca/blog/forage-u-pick-a-new-interactive-forage-species-selection-tool-for-western-canada/

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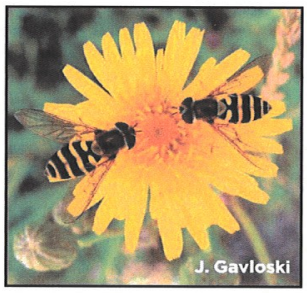
SCOUTING FOR BENEFICIALS IN CEREALS

Scouting your cereals? Look for these beneficial insects. They can help with control of yield-robbing insect pests and are an important part of integrated pest management.

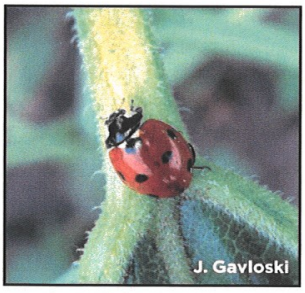
GREEN LACEWINGS

- Adults are green, with wing veins that look like netting. Some species have gold eyes.
- Larvae are alligator-like in general shape, cream coloured with brown markings and sickle-shaped mandibles, and long bristles coming out from the sides.
- Eat aphids, thrips, mites, leafhopper eggs, Colorado potato beetle eggs and larvae, and diamondback moth eggs, larvae and cocoons.



HOVER FLIES

- Adults often hover over flowers. Some species resemble bees and wasps. Abdomen usually has black and yellow stripes.
- Larvae are legless and "slug-like", often green or brown and tapered towards the head. They eat aphids and small caterpillars.



LADY BEETLES

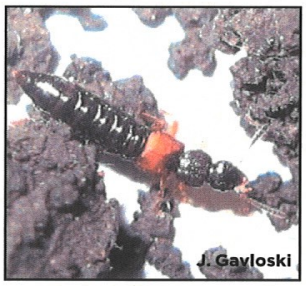
- Adult lady beetles (commonly called 'ladybugs') are well recognized. Larvae are alligator-like in general shape and black with white, yellow, red or orange markings.
- Feed on aphids, thrips, mites and other small insects; may also feed on the eggs of moths and beetles.

Brought to you by Western Grains Research Foundation

FIELD HEROES

THINK BENEFICIALS BEFORE YOU SPRAY
for more information visit
fieldheroes.ca

SCOUTING FOR BENEFICIALS IN CEREALS



ROVE BEETLES

- Adults are slender with short wings; 3-6 segments of the abdomen may not be covered by the wings. They often run fast, sometimes with the tip of their abdomen bent upward.
- Most adults and larvae are predaceous on insects, and a few are parasitic. Some species eat root maggot eggs and larvae.

GROUND BEETLES

- Head at eyes narrower than section behind head. Elytra (front wings) may have striations or pits. Run rapidly when disturbed.
- Eat cutworm and diamondback moth larvae; Colorado potato beetle and root maggot eggs, larvae, and pupae; and aphids. Some species feed on larvae of sunflower beetles and wheat midge. Some species of ground beetles will also feed on weed seeds.

Tetrastichus julis

PARASITIC WASPS

Several species of parasitic wasps are important in managing insect pests in cereals, including:

MACROGLENES PENETRANS – parasitizes wheat midge
TETRASTICHUS JULIS – parasitizes cereal leaf beetles
BRACON CEPHI – parasitizes wheat stem sawfly
COTESIA SP. – cutworms and armyworms
APHIDIUS SP. – aphids

Six Tips For Spraying in the Wind

Tom Wolf (Nozzle_Guy)

Tom Wolf (Nozzle_Guy)

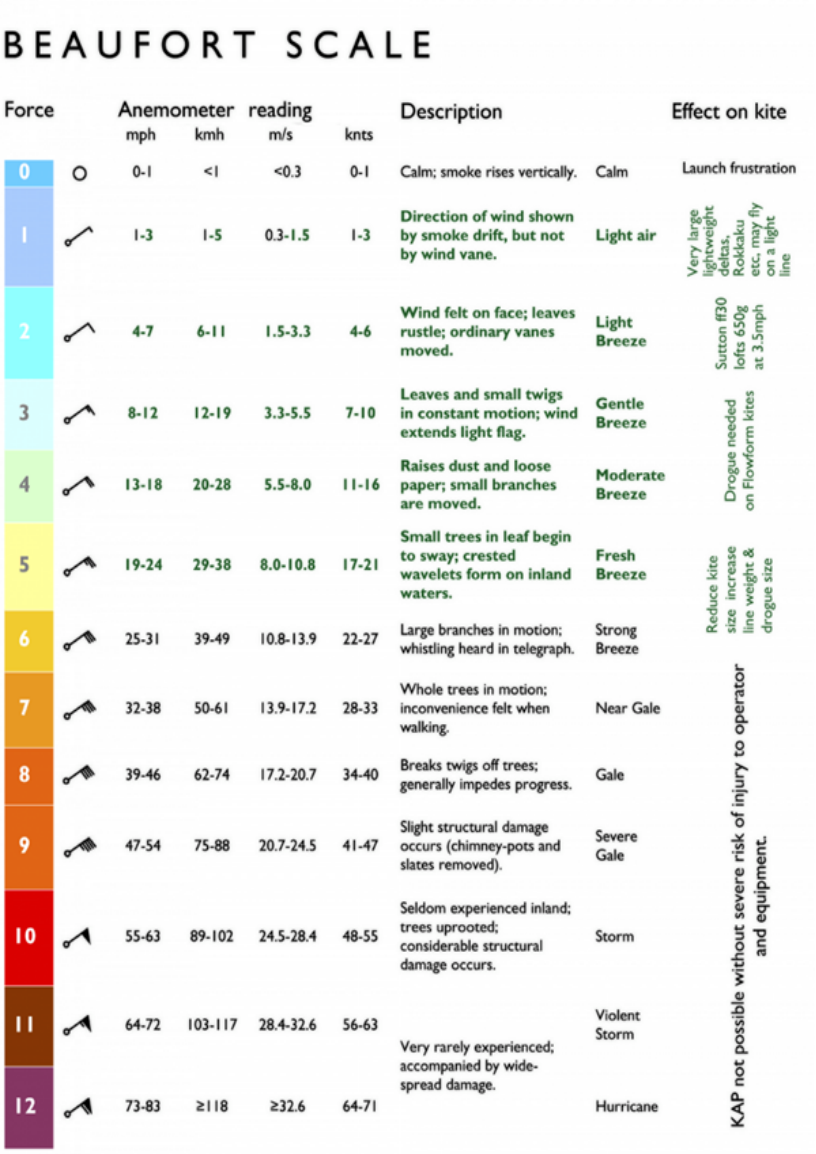
Tom Wolf is based in Saskatoon, SK and has 30 years research experience in the spraying business. He obtained his BSA (1987) and M.Sc. (1991) in Plant Science at the University of Manitoba, and his Ph.D. (1996) in Agronomy from the Ohio State University. Tom focuses on practical advice that is research-based to improve the efficiency of producers. He also rides a unicycle to the office every day.

Choosing the right time to spray can be tricky. Our gut tells us that spraying when it's windy is wrong. The experts tell us that spraying when it's calm is wrong. So when can you actually spray?

I've always advised my clients to spray in some wind, because it has a few advantages. The main one is that wind helps disperse the spray upward and downward, diluting the spray cloud fairly rapidly. Another advantage is that winds tend to be reasonably steady in their direction and velocity (or at least that can be forecast), so downwind areas can be identified and potential impacts are known or predictable. It helps if it's sunny, because that improves the dispersion of the cloud even more.

First, let's define "windy". The classic wind scale is the Beaufort Scale, intended for the sea, but also used on land. The upper limit for spraying is probably Force 3 or Force 4, with upper limits of 20 – 25 km/h or so.

The Beaufort Scale calls these "Gentle or Moderate Breezes" (they had to save the alarming words for hurricanes), and the scale provides good visual clues such as what wind does to flags, leaves, or dust.



Spraying under breezy conditions can be done fairly safely if you follow specific steps. The idea is to understand what the risks are and to manage them.

The cornerstone is to use a low-drift spray and match it to a pesticide that will work well with larger droplets. But there are other important aspects to consider. Below are the top six to think about:

Six Tips For Spraying in the Wind

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1. Choose a herbicide that can handle large droplets. Glyphosate products are well suited to coarse droplets. But glyphosate commonly has contact actives in the mix, members of Group 6, 14, and 15, and these are less likely to perform well with big droplets than those that contain Group 2 and 4 mixes. Actives with soil activity also have more tolerance for larger droplets.
2. Use a low-drift nozzle and operate it so it produces a Coarse to Very Coarse spray quality, as described by the manufacturer. Dicamba labels call for Extremely Coarse to Ultra-Coarse sprays, and Enlist requires at least Coarse. To achieve these you may need to purchase new nozzles. Low-pressure air-induced nozzles operated at about 50 – 60 psi will generally be very low-drift, but lower drift models are available. If you need a finer spray, produce it either by increasing the pressure or moving to a finer tip. Do this when the weather improves, for contact modes of action.
3. Keep your boom low. For low-drift sprays, you need at least 100% overlap, which is for the edge of one nozzle pattern to spray into the centre of the adjacent pattern. In other words, the spray pattern should be twice as wide as your nozzle spacing at target height. For most nozzles, a boom height of close to 20 inches is enough to achieve this overlap. That's pretty low by current standards from suspended booms on self-propelled sprayers, so being too low for a good pattern will only happen due to boom sway.

4. Maintain reasonably slow travel speeds. These reduce the amount of fine droplets that hang behind the spray boom, and they also make low booms more practical.

5. Know what's downwind and what harms it. Survey the fields on all sides of the parcel you're treating. When you have a choice, avoid spraying fields that have sensitive areas downwind such as water, shelterbelts, pastures, people, etc. If you can't avoid being upwind of these areas, make sure you check and obey the buffer zone restrictions on the label. These will also give you an idea if the product can cause harm in water or on land, or both.

6. Let the weather help you. Take the wind from the side if you can. Going straight into the wind creates a lot of extra drift. Spray when the sun shines if you have a choice. Early morning, late evening, or cloudy days increase the distance that drift moves. When it's sunny, the drift cloud disperses quickly and causes less damage.

If you feel that drift is unavoidable and someone might be impacted by it, talk to those people first. It's one of the most important things you can do.

Sources:

https://sprayers101.com/spray-wind/

Cover Crops

Beef Cattle Research Council

Cover crops are typically diverse, annual plant mixtures seeded with the intent to "cover" the ground and improve soils. Cover crops may include biennial or perennial species, and can be grazed, baled, or used for silage, depending on the goals of the producer.

Cover crop goals and objectives

Proponents suggest that you can use cover crops to meet any number of goals, whether it is to increase productivity, improve soil health, increase water infiltration, control weeds, provide grazing, or reduce the need for inputs such as fertilizer. The overall goal or end use of the crop will largely determine the type of cover crop or mix seeded, when it is planted, and how it is managed.

Cover crops can be a valuable and quick-growing source of forage for livestock, and provide grazing in the same year the crop is seeded. Cover crops may also allow cropland and pastures to be more efficient with water and nutrient cycling, and less reliant on costly inputs such as fertilizer.

A cocktail crop featuring numerous plant species. Photo courtesy of Cover Crops Canada

Many producers seed cover crop mixes, often called "cocktails," in order to benefit the soil ecosystem, improve soil aggregation, and support a variety of soil microbes, fungi, and other biodiversity, such as earth worms. Some farmers use cover crops to incorporate into the soil as a green manure or plough-down crop in order to increase organic matter and allow for more efficient nutrient recycling. Some cocktail crop mixes may be useful in utilizing excess water in a field that would otherwise be water logged. Other mixes may include plant species selected for their drought-tolerant qualities and their ability to make the most efficient use of existing moisture. Other cover crops, such as fall rye, are planted to reduce soil erosion.

Cover crops also provide potential opportunities for cash crop farmers and livestock farmers to collaborate. Cash crop producers may want to incorporate cover crops on their fields to improve soils and reduce the need for costly crop inputs, however they don't have a way to remove the crop via livestock. Partnering with cattle producers to remove the residue by grazing or baling can provide an additional revenue stream and in the case of grazing, provide additional bacteria and nutrients on the landscape.

Cover crops, because of their diversity, are often more resistant to pests such as insects and diseases. Research has shown that polycrops are more productive than monocultures and may be better able to withstand variable weather conditions such as drought.

There can be many rewards from seeding cover crops however there are some risks as well. Cover crops require careful planning. Paying close attention to timelines, especially seeding windows, will directly impact the success of the crop.

Grazing cover crops

From an animal standpoint, a forage cocktail also provides cattle with a diet that is nutritionally diverse. A mix may include species such as clover, a forage *Brassica* (i.e. turnip, radish), barley, or peas. Each plant species may reach maturity at slightly different times, therefore providing green forage continuously through the growing season. Producers may seed a cover crop to provide green forage during the "summer slump" when conventional forages are mature and quality is declining.

Using a combination of plants rather than a single forage species helps to increase the overall yield potential of the crop. Producers will want to manage cover crops through grazing management strategies, such as temporary fencing, that allow appropriate and timely grazing that matches the species and their stage of growth.

Current research trials are taking place to evaluate the effects of what happens when cover crop residue is completely removed, partially removed, or left.

Cover Crops

Continued from previous page...

Current research trials are taking place to evaluate the effects of what happens when cover crop residue is completely removed, partially removed, or left.

Animal considerations

Forage quality in cover crops can be similar or even better than that of monoculture forages. Research has shown that mixes may have higher protein and lower neutral detergent fibre (NDF) that there may be beneficial micronutrients including copper, calcium, iron, nitrogen, phosphorus and sulfur that aren't present in monocultures.

If producers are planning on using cover crops for silage, greenfeed, grazing, or another controlled feeding methods, feed testing is recommended to identify any potential nutrient or anti-quality issues.

Depending on soil fertility conditions and species selection, some cover crop plants, such as *Brassica* species, can accumulate excess nitrates and sulfates. *Brassica* species often withstand frost and may be the only remaining plants green and growing during a fall grazing period so it's important that producers pay attention to their animals for symptoms of nitrate or sulfate toxicity. As well, consider potential problems with cumulative levels of nitrates or sulfates that may be present in the stock water. Other cover crop species may cause grain overload if animals are allowed to selectively graze, so take steps to prevent that from occurring by only allowing a portion of the field to be accessed at a time.

Some species within a forage cocktail do not have a lot of fibre, particularly as species regrow following grazing. Cattle producers may want to include rough age in these grazing fields, even by providing straw bales or slough hay, to slow down the passage of forage through the digestive system and increase the nutrient uptake.

Producers are urged to pay attention to their cattle when grazing or feeding cover crops. Use common management practices, such as the following, to avoid problems:

- Avoid early morning moves and only turn cattle out onto new cover crops when the cattle are full;
- Avoid moving cattle to a new cover crop during weather changes;
- Avoid moving cattle to a new cover crop following a major handling event (i.e. processing, preg-checking, following a long trailing event);
- Prevent animals from selectively grazing (i.e. choosing the "best, leaving the rest") by allowing them to graze a portion of a field at a time and ensuring an appropriate stocking rate; Monitor animals for signs of reduced feed intake, incoordination, panting, or other signs of nutritional toxicity.

A cover crop species showing a build-up of organic matter. Photo courtesy of Cover Crops Canada

Sources:

https://www.beefresearch.ca/research-topic.cfm/cover-crops-91

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Mission Statement:

The Lakeland Agricultural Research Association (LARA) conducts innovative unbiased applied research and extension supporting sustainable agriculture.

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Upcoming Events

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