AGRONOMY BULLETIN

Emergency Forage Options on Prevent Plant Acres

Because of the unique circumstances that we are in this year, Legend Seeds is working hard to provide cropping options to meet your needs. Cover crops can be a good way to take advantage of an otherwise unfortunate situation. Benefits accomplished with these cover crops will put farmers at an advantage for the following cash crop and for years to come. As the demand for traditional cover crop seed rises and becomes hard to find, there are other crops that may be classified as a cover crop and may be planted on your prevent plant acres.

Here are some key factors to consider for prevented planting:

IT IS IMPERATIVE TO CONSULT YOUR CROP INSURANCE AGENT

- Consult your crop insurance agent regarding cover crop planting and potential forage harvest if a prevent plant insurance indemnity is being taken. There are several rules concerning planting and harvesting dates, as well as the impact on APH yield history for the farm. Crop insurance payments may be reduced or lost entirely if planting and harvest rules are not followed. Remember to understand the end of the late planting period set by USDA-RMA (Risk Management Agency).

WHAT IS A COVER CROP?

- For a crop to be considered a cover crop, RMA states that "*For crop insurance purposes, a cover crop is a crop generally recognized by agricultural experts as agronomically sound for the area for erosion control or other purposes related to conservation or soil improvement.*" Soybeans and corn both meet this requirement. However, please remember that Best Management Practices (BMP's) must be followed to meet this requirement. Quickly defined, a cover crop is established for benefits to the soil, cropping system, and environment; no biomass is harvested. The goal of a cover crop is to protect the soil from erosion (wind and water), to improve water quality by capturing nutrients, to build organic matter, enhance soil health, and to suppress weeds. An actively growing and managed cover crop will also prevent yield reduction in the following year's crop due to "fallow syndrome". Ultimately the decision to use a cover crop is the cost of production.

PREVIOUS HERBICIDE

- Previous herbicide use can impact cover crop establishment, as well as its potential use as a forage. Review your herbicide use history and herbicide labels for the previous two cropping seasons for potential rotational and forage limitations.

WEIGH OUT ALL OF YOUR OPTIONS

- Identify your priority for growing a cover crop. Is it for weed suppression or to use as an "emergency forage"? It's important that each grower understands all the options that are available. The information given below are some but not all the options that could be available to use. Again, before doing anything, check with your crop insurance agent to make sure the option being chosen is approved.

AGRONOMY BULLETIN

Action Plan

CORN

- **Plant populations:** Higher populations lead to faster ground cover and help with weed suppression. Recommended minimum populations are upwards of 35,000 plants per acre needed for corn as a cover crop.

- **Narrow row spacing:** Corn is a row crop. Using a narrower row corn planter (< 30 inches), twin-row planter, or a grain drill can lead to faster ground cover by the corn canopy and weed suppression. Criss-crossed rows can lead to quicker canopy cover.

- **Crop Rotation:** Rotating crops helps with interrupting pest cycles and promotes early growth and quicker canopy coverage. The choice of cover crops this year should be based upon the subsequent crop intended next year. For example, if soybeans are planned for the field next year then corn (or some grass crop) should be the cover crop this year.

- **Planting into residue:** Seeding into fields with > 30% residue provides some ground cover between planting and canopy establishment.

- **Herbicides:** Herbicides should be used to help with weed control. **Use care about pre-grazing and/or pre-harvest restrictions after September 1.** Also, think about rotation restrictions when choosing herbicides.

SOYBEANS

- **Soybeans can be harvested as a hay or silage crop:** This option is often considered either when forage is short or when the soybean crop is damaged for harvest as a grain crop (for example, following hail damage or an early frost). Soybean forage, like most legumes, tends to be high in protein and low in fiber (relative to grasses) making soybeans an excellent forage if harvested properly. The major limitations to using soybeans for forage are their low yield potential and the fact that many soybean herbicides are not labeled for use when soybeans are harvested as a forage.

- **Late maturing varieties** tend to grow taller and produce more forage. In a late planted soybean cover crop situation, plant a minimum of 150,000 seeds per acre and strive to plant in narrow row spacings (<30 inches). This recommendation is intended to minimize soil erosion, maximize ground cover and weed suppression, as well as provide adequate N fixation.

- **Herbicides:** If herbicides are necessary for weed control, careful selection of the correct herbicide will allow use of the soybeans as forage.

- **Ideal range to harvest soybeans:** The ideal range to harvest soybeans as a forage is between R3 (one pod 1/4 inch-long at one of the four uppermost nodes) to R7 (one pod on the main stem that has reached its mature color). At R3 there are more leaves and less lignified stems and at R7 the yield is approaching maximum, but leaf loss increases and stems are more lignified or undigestible. At R7 the field has achieved maximum dry matter yield and is beginning to decrease in moisture content. Soybeans harvested later will have higher oil content which reduces their ensiling characteristics (mixing grass at ensiling will help later harvested soybeans). Remember that the stage of maturity is dependent on weather and growing conditions and these principles serve to provide understanding in choosing when to harvest soybeans for forage.

AGRONOMY BULLETIN

- Some field drying is necessary before either ensiling or making hay from soybeans. They should be harvested with a mower and conditioner. Conditioning hastens stem drying so that leaves and stems dry at more similar rates and leaf loss is reduced. Harvesting soybeans for hay is generally not recommended because drying time is increased relative to silage harvest. Leaf loss is also increased so that crude protein of the harvested forage is reduced. Additionally, soybean hay is often dusty and the stems are very brittle increasing feed bunk refusal. The latter can be reduced by good conditioning at mowing. Soybeans should be harvested at earlier stages for hay than for silage.

- Soybeans harvested for silage should be harvested with a mower-conditioner and dried to 65-70 % moisture for storage in a silo tube or bunker silo or dried to 60-65% moisture for storage in an upright silo. Pure soybean silage is not very palatable to cattle. Palatability can be increased by mixing the soybeans with a grass at harvest.

CORN/SOYBEAN COMBO PLANTING

- Mix planting corn and soybeans for forage purposes is an option to consider for those looking to gain a little protein with the mix. For late planting conditions like prevented plant acres the combination of corn and beans may offer a better choice. Considering that the grain may not get fully mature and that soybeans offer protein, there may be benefits to the combination in a forage ration. Soybeans could either be planted in the same row with the corn by mixing the two seeds in the hopper box or they could be planted on alternating rows or in twin rows. In any case a later maturing bean will tend to grow taller and provide more forage per acre.

CANAMAIZE

- CanaMaize is a short stature (around 4.5-5 feet tall), short season (65-69 day) hybrid. CanaMaize can be solid seeded using any conventional seed drill, corn planter or broadcast seeded. If planted with a traditional corn planter, due to the small seed size, it is recommended to use your smallest corn disc. If drilled, it is recommended that you block every other run. If planting in 20-30 inch rows, the recommended seeding rate would be 40-50,000 plants per acre. Narrower than 20 inch rows should be seeded at 60-70,000 plants per acre.

- Select land with low trash/residue from prior crop and low weed pressure. Early season weed control is essential. Post-seeding burn down helps reduce early problems. Make sure this is done within a few days of planting to avoid seed damage.

- CanaMaize is an excellent choice if you are looking for a short season corn variety that will maximize your acres for grazing and forage for cattle.

SORGHUM

- **Planting recommendations**: If planting sorghums in 30 inch rows, the best planting population is about 80-100,000 (6-7lbs per acre). Thinner populations make thicker stalks, better for chopping. Planting population for drilling sorghums on 7.5-10 inch rows will vary depending on if you are planting under dryland conditions or under irrigation. For dryland, the best planting population is 150-200,000 (10-15 pounds per acre), and for irrigated acres planting population should be at 350-500,000 (25-35 pounds per acre). This will make finer stems that make better hay or grazing and will help with regrowth.

- **Management considerations:** Grain sorghum, forage sorghum, sudangrass, sorghum-sudangrass hybrids, Johnson grass and sweet sorghums are often grazed, ensiled, or hayed for livestock feed. However all sorghum-type plants can potentially cause prussic acid poisoning livestock that consume these forages, especially in the fall. As temperatures begin to drop, taking a proactive approach to managing the feeding of sorghum to livestock can eliminate or certainly minimize any risk of prussic acid poisoning. The drying process and ensiling process dramatically reduce prussic acid and the risk is also diminished when a frost kills the crop and then it dries. Careful management of the residual stubble from a grain sorghum crop can still be utilized as a forage source for livestock.

AGRONOMY BULLETIN

- **Grazing considerations:** Use caution in grazing. Cattle should be allowed to graze sorghum once it has reached a height of 18 to 24 inches to prevent issues with nitrates or prussic acid. After a killing freeze, the plants should field cure (approximately 7 days) before allowing cattle to graze the forage. If cattle were grazing prior to the freeze, remove them and wait for the forage to cure before returning them to the pasture. In grain sorghum following harvest, sorghum stubble is typically safe for grazing. However, unless the plants have been killed by a hard freeze or with a herbicide, the stubble should be managed just like forage sorghum or any other sorghum that was not harvested for grain.

- **Using as hay:** For hay production, sorghum can be cut any time after it has reached a height of 30 inches. Quality of the forage, particularly crude protein, will decrease as the sorghum matures. A good rule of thumb for producing both quality and tonnage of forage is to harvest sorghum at the boot stage, which is just prior to heading.

  Though usually not an issue, growers should be aware of potential nitrate toxicity and prussic acid poisoning under drought conditions or when an early frost occurs late in the season. These issues are a greater concern when sorghum is grazed than when it is hayed. Prussic acid largely dissipates when hay is properly cured.

- **Sorghum silage**: If prussic acid (HCN) levels are high at the time of harvest, wait at least four weeks before feeding the forage. The HCN will volatilize during the fermentation and feed mixing process.

ANNUAL COVER CROPS

- Summer annual cover crop species are ideal for prevent plant situations, and mixing species is a good way to multiply the benefits from multiple species. Each cover crop species come with their own concerns. Some of the concerns would be herbicide carryover from herbicides already applied, available herbicides for in-season use, availability, seeding rate, seeding depth, management considerations, and harvesting considerations.

- **Managing weed pressure:** If you are planning to use cover crops in fields with heavy broadleaf weed pressure (i.e. marestail, waterhemp, etc.), consider using a grass species as a cover crop so that broadleaf herbicides can be utilized to manage weed populations over the summer.

- **Seed availability:** If summer annual cover crop seed availability is low, you might consider controlling weeds until August and then planting a cool season species or mix.

ALFALFA

- Alfalfa could be considered a crop option for prevented plant acres. According to the RMA, farmers have options when planting alfalfa on prevented plant acres. They can plant it as a cover crop and manage it accordingly or they can plant it as a 2020 crop. With the 2020 crop scenario, the farmer has options: don't insure the alfalfa; insure it under a 2020 forage seeding policy (no 2019 cutting option) or insure it under a 2021 forage production policy.

- Alfalfa provides much needed ground cover and many other beneficial attributes that should be considered when deciding what to plant on PP acres. Alfalfa reduces soil erosion and improves soil structure, moisture holding capacity, and nutrient content. It also increases beneficial soil biota, suppresses weeds, provides habitat for beneficial predatory insects, facilitates crop pollinators, and provides wildlife habitat.

AGRONOMY BULLETIN

SUMMARY

It is important to stay up-to-date with the options growers have for fields that have suffered from extreme conditions. There are multiple factors to consider for planting acres, however, understanding guidelines is most important. For more information on any of the Legend Seeds cover crop portfolio options this season, contact your Legend Seeds Representative today.

Resources

2019 MCCC Cover Crop Considerations for Prevented Planting
http://mccc.msu.edu/cover-crop-considerations-prevented-planting/

Guidance When Using Corn as a Cover Crop
http://wisccorn.blogspot.com/2019/06/B102.html

Soybean and Corn are Considered Cover Crop Options in WI
https://coolbean.info/2019/06/13/soybean-corn-considered-cover-crop-options-wi/

Soybeans for Hay or Silage
https://fyi.extension.wisc.edu/forage/soybeans-for-hay-or-silage/

Alfalfa Offers Livestock Feed Advantages on PP Acres
http://alfalfa.org/pdfMedia/Alfalfa_Offers_Livestock_Feed_Advantages.pdf

Avoiding Prussic Acid
https://www.sorghumcheckoff.com/news-and-media/newsroom/2017/01/09/avoiding-prussic-acid-problems-in-sorghum/

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