

Short on hay this spring?

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A number of livestock producers are reporting short hay inventories coming into the spring and, while the warmth of the sun has us optimistic that winter will soon be behind us, the 2021 crop season is still a ways off. Strategies to deal with potential forage shortages started last fall with farms reducing animal numbers, extending grazing as long into the fall as possible, and planting winter cereal grains for spring forage. But what about additional strategies for this spring?

Buy more hay

An inherent challenge regarding the impact of weather on hay availability is that when you are short, most likely everyone else is short too. If you are able find a source of hay, make sure you know what you are paying for. With poor quality hay, animals will often “fill up” and stop eating before they have consumed enough nutrients to meet their health and maintenance needs. In these cases, supplementing with a small amount of grain (assuming you are not restricted by something like grass-fed-only certification) can help assure the animal's nutrient needs are met. While this may initially seem like an expensive option, the cost is often less than the loss of productivity and health problems associated with under-feeding essential nutrients.

If you operate within forage only or grass-fed requirements, recognize that if the hay you have available cannot meet the animal's basic needs, offering them more low-quality hay will not help. Animals simply will not be able to eat enough of it, the hay will go to waste, and the animals will lose condition. So, either spend more to get better quality (even if you can get less of it) or, if the situation is extreme, look at options to reduce animal numbers.

Early spring forage options

Unfortunately, there are few options to produce significant amounts of forage before the typical first cutting of grass-legume forages, in late May. A winter cereal planted last fall may offer extra forage but will usually be harvested just seven to 10 days before the first cutting of perennial forages. The difference in timing alone is not enough to help in early spring.

Planting a crop like oats as early as possible this spring can help rebuild overall forage inventories but will not offer much in the way of a significantly earlier forage harvest. Spring oat forage is typically harvested in late May to early June at the very earliest.

[Agronomy Factsheet #114](#) provides information on establishing oats as an “emergency” forage as well as other forage options for unique circumstances driven by adverse weather events.

Similarly, strategies such as frost seeding and nitrogen fertilizer on grass in the spring can offer benefits to rebuild inventories but will have little impact at providing early spring feed.

Grazing early and sacrifice areas

Early grazing is often considered when forage inventory is short. Grazing too soon in the spring can be detrimental to both the plants in the pasture and the animals. Those considerations are discussed here with ideas to reduce negative impacts, but ultimately, early grazing still may be a reasonable strategy.

Plants

Grazing too early stresses forage plants' energy reserves as they break dormancy after winter, particularly if it is grazed too low to the ground or it is muddy when animals are allowed in the area. This may provide some needed forage this spring but is very likely to reduce stand productivity for the remainder of the season. The negative impacts of grazing too early can result in permanent loss of desirable species and encroachment of weeds.

If early grazing is necessary, strategically pick a sacrifice paddock or field where you can accommodate this damage. This could be a field or paddock that already needs renovation or improvement. This is a scenario when grazing winter cereals or oats could offer an early forage benefit as the detrimental impacts of a punched up field may be less costly to you on a field that will already need reseeding after the cereal crop, in comparison to a perennial field.

Animals

Grazing animals on lush spring growth (very high moisture content) can present some of the same problems as feeding poor quality hay. This lush spring growth is high in nutrients, but it may not be able to meet the nutrient needs of the animal as it often lacks the fiber required for balanced intake and rumen health. Furthermore, energy exerted to graze, particularly when yields are quite low and conditions are muddy, create challenges. In some cases energy exerted moving around may exceed nutrients taken in.

Grazing in these scenarios should be monitored very closely and may require limiting access and/or supplementing with a combination of lower quality hay (to meet fiber requirements) or other supplements to balance nutrient needs.

Restoring damaged fields

As you assess any damage caused by the circumstances of 2020 or spring 2021, it will be time to make a plan for remediating these issues to return the affected fields to productivity. An assessment should be made as to whether a field needs to be completely renovated (terminate remaining stand and start over) or if the current stand can be improved with frost seeding or no-till drill seeding. While patching up damaged areas with an appropriate grass or legume species can alleviate the short term need for feed, it can also introduce challenges of variable forage quality.

Considerations for this may include:

- Would the field benefit from crop rotation?
- Presence and quantity of desirable species remaining
- Presence of problematic weed species
- Field conditions (is the field very rough from past grazing or equipment)
- Equipment available for renovating the stand
- Options allowable within the system (i.e. restrictions of organic certification)
- Intended use (grazing, mechanical harvest)
- Ability to manage variable stand maturity and forage quality in mixed stands
- Soil type/soil drainage
- Soil fertility

Contact a Cornell Cooperative Extension educator for assistance to evaluate current field conditions and plan the best course for remediation. Some resources are also available online to aid in this process.

Frost seeding

- [Frost Seeding: A Cheap Alternative to Improve Pastures](#)
- [Frost Seeding Pastures Video](#)

Restoring perennial hayfields

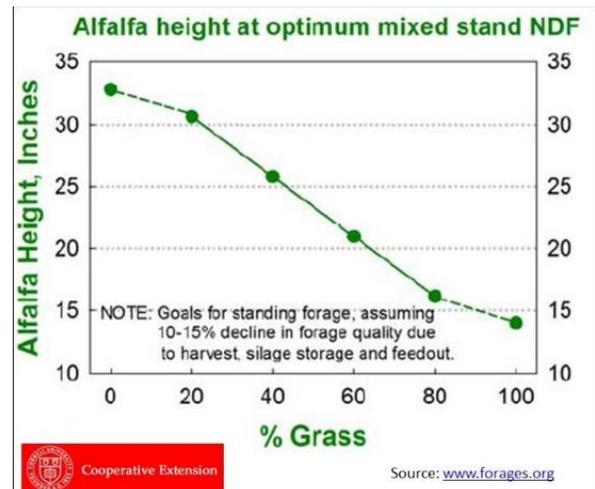
- [Restoring Perennial Hayfield Factsheet](#)
- [Weed Control in Grass Hayfields](#)

First cut hay

We will all be awaiting first cutting this spring, and while beef producers usually harvest first cutting a bit later than dairy farmers, a need for forage may change your plans this year. In New York, the timing of “dairy quality” first cutting can start as early as mid-May for grasses with alfalfa stands ready a week or so later (and mixed stands falling in between). It is important to have equipment ready and watch the maturation of the stand, not the calendar.

As shown in the figure developed by Jerry Cherney at Cornell, alfalfa height is a good indicator of harvest timing for both alfalfa and grass.

Target alfalfa height for optimum first cut harvest timing based on percent grass in the stand. 100 percent alfalfa stands should be cut when alfalfa is approximately 32 inches tall. Stands that are 50 percent alfalfa and 50 percent grass should be cut when alfalfa is approximately 24 inches tall. Stands that are 100 percent grass should be cut when neighboring alfalfa stands are approximately 14 inches tall.



Similar to the issues with grazing too early in the spring, an early first cut may be too high quality for some beef classes. This can be managed by mixing with other feed sources, as long as you plan for it, and pay attention to animal health. A high quality, early first cutting might be a decent complement to extend inventory of mediocre quality hay from last year.

Don't cut grass too short

Similar to grazing too short, mowing grass short is often considered a means of obtaining more yield. However, the potential gains made from cutting short in one cutting will be negated by the long-term stress this puts in the stand. Grass should be cut at a height of four inches. Cutting below this minimum height will significantly reduce the speed of regrowth and overall yield potential throughout the season. A study at Miner Institute compared new seedings of Orchardgrass and Reed Canarygrass at two cutting heights. At a two-inch cutting height the Reed Canarygrass was killed and the Orchardgrass required 38 days for the regrowth to reach a height of 16 inches. In contrast, at a four-inch cutting height, both grasses responded quickly and reached a height of 16 inches in 21 days, in about half the time.

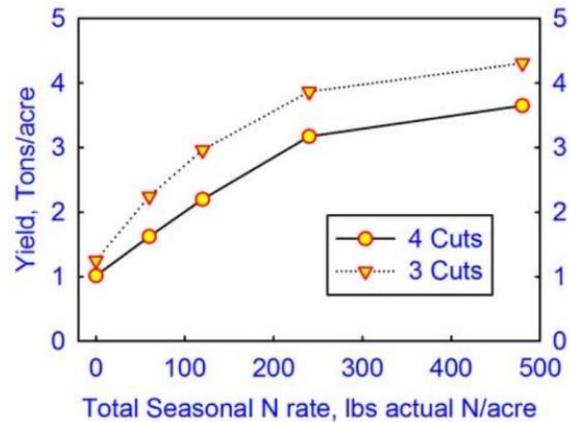
Due to its growth habits, alfalfa can be cut shorter, at about two-inches; however, considerations such as ash content (soil contamination), quantity of grass in a mixed stand, and field conditions all need to be taken into

account when making the cutting height decision, and generally a three to four" height is still recommended. Red Clover should also be cut at a three to four inch height.

Cuttings per year

A more intensive cutting schedule is often considered necessary for higher quality hay, and while this is true, it may not be the only consideration, particularly if you have animals on the farm that do not require "dairy quality" hay.

A study by Jerry Cherney at Cornell investigated both the yield response to nitrogen (N) fertility on grass as well as the impact of the number of cuttings. As shown in the figure, yield was optimized at approximately 200 units of N for the season and the three-cut system out-yielded the four-cut system.



This does not suggest that we need to take three cuttings of mediocre forage. There is a better timing strategy. The best approach is likely to take two cuttings of higher quality forage (as weather permits) and then the remaining cutting are left longer to bolster yield, with this last cutting best suited for non-lactating dairy, or to balance out higher quality hay for livestock.

Conclusions

1. Few to no options are likely to shift forage harvest earlier this spring.
2. Many options exist to increase forage yields this year to recover from low inventories resulting from poor forage yields in 2020.
3. Consideration of these options should be balanced with farm priorities, opportunities to reseed or rotate fields, animal nutritional requirements and animal health.

References

- [Emergency and Alternative Summer Annual Forages, Agronomy Factsheet #114](#)
- [Frost Seeding: A Cheap Alternative to Improve Pastures](#)
- [Frost Seeding Pastures Video](#)
- [Restoring Perennial Hayfield, Agronomy Factsheet # 109](#)
- [Weed Control in Grass Hayfields](#)
- [Predicting Spring Fiber Content of Forages, Grass Information Sheet #22](#)
- [Grass Harvest Management, Grass Information Sheet #20](#)