



Haylage in a Day

Adapted from Advanced Ag Systems, Tom Kilcer, CCA

“Haylage in a Day” is a counterintuitive breakthrough in haylage-making that gives the producer his best chance to make the highest quality forage for his livestock. Where does the extra quality come from? Number one, due to the lack of respiration the haylage a) doesn't lose dry matter (this DM loss is mostly sugar) and since the crop is still receiving sunshine, more sugars are being produced even though it has been mowed!

Here are the elements of Haylage in day also known as wide swathing:

- Hay started mowing at 9:00 to 9:30am on a sunny day.
- Hay wide-swathed to 85% of discbine or cutterbar width.
- Tedding can widen the swath if shields cannot be adjusted/removed. Tedding should directly follow mowing. The extra cost of tedding will be paid many times over by the increased hay quality.
- Merging/raking should immediately precede hopping/baling as drying and sugar production (*photosynthesis) ceases as windrows are formed.
- If you want Haylage-in-a-Day to be successful, follow the rules!

Counterintuitive #1 - I thought hay was higher in sugar if it was mowed in the afternoon

- It is, however leaving hay in windrows or even left in wide swaths overnight allows for respiration and consequently the loss of those sugars and the dry matter that those sugars comprised.
- One exception. Our friends in the mountains of Montana, etc., have a forgiveness to this rule. The nights there drop in temperature drastically which halts the sugar respiration. These areas can produce some marvelous hay. The Midwest seldom has these weather conditions.

Counterintuitive #2 - It takes 30 hours or so to bale dry hay, how can hay dry to 35% to 40% dry matter (DM) in only a few short hours?

- There are three phases in the dry down of hay crops. The first is very rapid down from as cut to 35% to 40% DM. This rapid phase is what we are taking advantage. However, only the crop that is directly exposed to the sun will dry that fast. The hay that is buried in a windrow will actually get wetter initially as it respire away sugar.
- This is partially why 85% wide swaths are crucial.

Counterintuitive #3 - If natural sugar levels are higher in the afternoon, where does the sugar come from in hay that was wide swathed in the morning?



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- Even though sugar levels in hay crops are at their low point in the morning after being without sun for 10 hours or so, being exposed to the sun and with their stomata (pores, plural of stoma) in the crop leaves that allow the plants to breathe, moisture to escape and photosynthesis to take place still open, photosynthesis still occurs, producing sugar.
- In a bunched windrow or in clumps, the darkness allows the stomata to close, stopping all photosynthesis or sugar production.
- Rapid harvesting allows more of this sugar to survive storage and be available to the cattle for energy.

Counterintuitive # 4 - Don't I need a sunny day to do this?

- **Yes, but we need sunny days to make hay anyhow and for this to work, we only need one!!!**

Counterintuitive # 5 - Won't I need a bigger chopper to keep up?

- Not likely, if your chopper is big enough now
- The main bottleneck will be the width of the mower(s).
- 50 cows 9 ft. mower width, 200 cows 15 ft. mower width, 5-700 cows 36 ft. mower width.
- You will want enough trucks or chopper boxers to keep up. The Chopper will be running at full capacity
- Also, be ready to pack!

Counterintuitive # 6 - Will any mower work?

- The mower must NOT condition the crop, only cut it.
- It seems like, in particular, John Deere MoCos will not allow hay to be spread wide enough. Most others have recognized the need.
- Also, mowers with tipped knives and high coned drums do a poor job of spreading the crop.
- A tedder can be the savior until a more appropriate mower can be obtained. On less than perfect days a tedder can also make a difference,

Counterintuitive # 7 - Won't conditioning make the hay dry faster?

- For alfalfa and for the drying down to the DM of 35% to 40%, conditioning will actually slow the drying since it will interfere with photosynthesis.
- For grasses, either way works, however for the most part widen your rolls!
- Do not use flail conditioners.

Counterintuitive # 8 - Won't I be driving on the hay?



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- Yes, but it will not damage the crop because the hay is laid so thin.
- You will have to forget what your Dad told you about driving on hay!

Haylage in a day will allow you to make the highest quality haylage or baleage you can make. In a forage, high quality always means high energy and Haylage in a day provides the highest sugar levels possible plus lowers the risk of a weather event hurting your crop. Be sure to talk to your Byron Seed Dealer for more information on this procedure.