

Factors That Affect NSC Levels in Hay

NSC = Simple Sugar and Starch
aka Nonstructural Carbohydrates

- In order to know the true NSC value of your hay you will have to test it.
- The recommended NSC level in hay for insulin-resistant horses is 10%.
- Multiple cuttings from the same field of grass can yield hay with different levels of NSC.

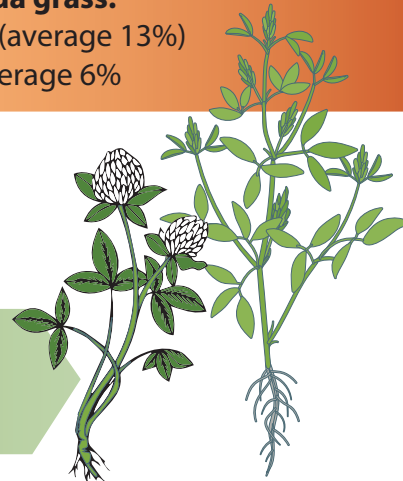
Understanding the factors that affect NSC levels will help you pick hay that is more likely to meet your horse's needs.

1. The type of plant

Cool-season mixed grass:
NSC range: 7% to 18 % (average 13%)
ESC* (simple sugars): average 7%



Warm-season Bermuda grass:
NSC range: 9% to 17% (average 13%)
ESC (simple sugars): average 6%



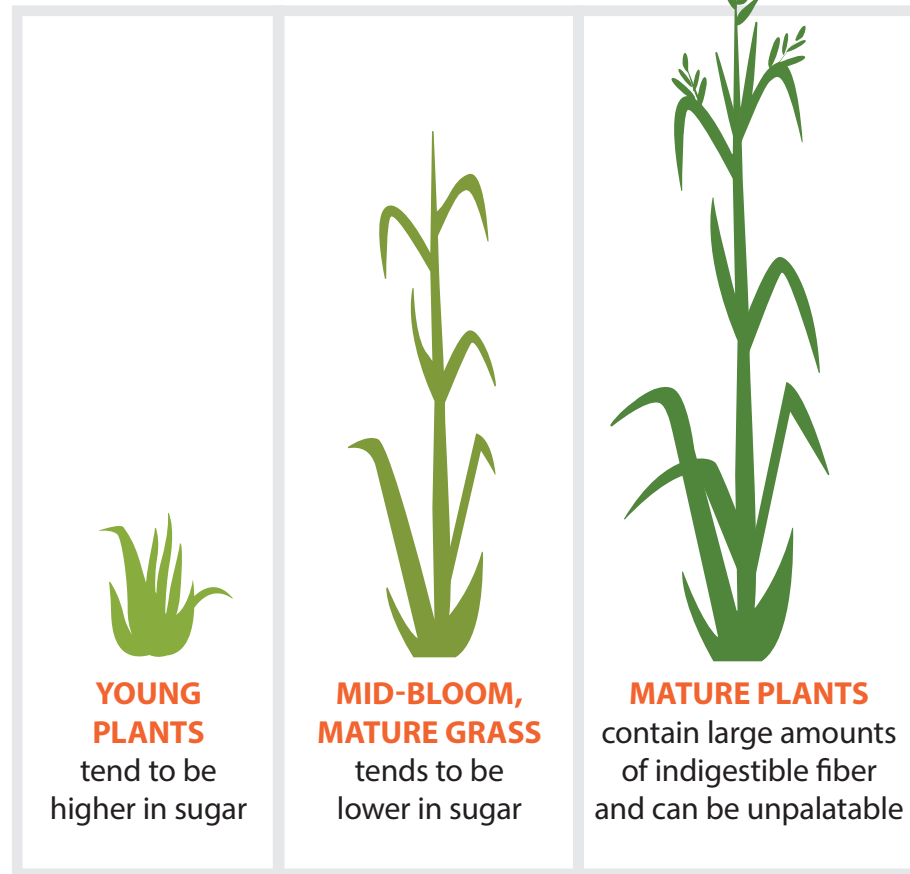
Legume (alfalfa and clover):
NSC range: 8% to 13% (average 11%)
ESC (simple sugars): average 7%



Source: Equi-Analytical Laboratories, Ithaca, NY.

*ESC = Ethanol-Soluble Carbohydrates

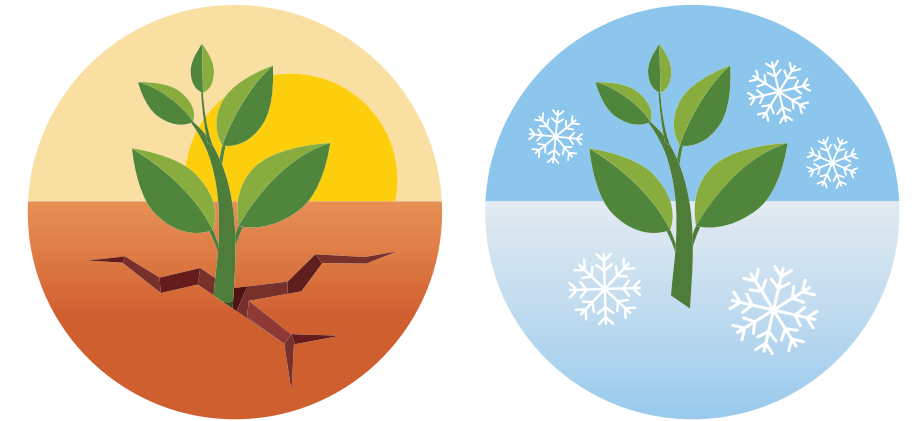
2. Maturity when harvested



3. Time of cutting and time spent curing in the field

↓ NSC	Grasses harvested in the morning, following evenings when temperatures are 40°F or above will be lower in NSC.
↓ NSC	The longer hay is dried in the field, the lower the NSC.
↑ NSC	Western hays tend to be harvested later in the day and baled more quickly than Eastern hays, so they can be higher in NSC.
↓ NSC	Hay that has been lightly rained on will be lower in NSC; however, it must be completely dry when baled or it will become moldy.

4. Environmental conditions during harvest



↑ NSC	Grasses stressed from drought conditions or freezing temps will contain higher percentages of NSC.
↓ NSC	Stressed warm-season grasses, such as crabgrass or coastal Bermuda grass, tend to be lower in NSC.
↑ NSC	Stressed cool-season grasses, such as fescue, orchard grass, and Timothy, tend to be higher in NSC.

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