Non-structural Carbohydrates (NSC)

What are they?

NSC Non-structural carbohydrates are the most accessible carbohydrates in the feed. They are either considered simple sugars, such as glucose, or other molecules that will be broken down and result in sugar production. Included in this group of carbs: sucrose, fructose, lactose and other sugars. If you have heard the term disaccharide or polysaccharide we are referring to more than one unit of a sugar connected together. In its simplest form as one molecule, it’s called a monosaccharide and that’s the only form of a carbohydrate that’s absorbed from the intestines.

Why are they important?

Higher carb feeds promote acidity - a factor for horses with or predisposed to ulcers, they cause a spike in sugar levels and for IR horses an increase in insulin - both are a concern for founder and management of horses predisposed to this, and additionally the increased sugar levels can be an issue with muscle related problems such as tying up, EPSM and Recurrent Equine Rhabdomyolysis (RER).

Carbs are unquestionably effective for a horse’s energy, but like all things one must consider the horse’s level of work, need for carbs, ability to burn them off effectively and if there are any underlying medical concerns that warrant keeping them on a lower carb i.e. lower NSC ration.

BLUE SEAL: (updated 2009)

Carb Guard - less than 11% NSC 6.4%
1.9% simple sugar and 4.6% starch
Blue Seal Carb Guard 5.2% starch, 1.75% ESC (2009)

Vintage Gold - 22% - was 32%
Vintage Mare Foal – 26.8% - was 33%
Vintage Senior – 16.6 % - was 20%
Vintage Versatility – 25.2%
Vintage Racer – 23.75% - was 30%
Vintage Sweet – 29.4% - was 35%
Vintage Performance LS – 12% (9.75% starch, 2.25% ESC)
Vintage Victory – 29.1% - was 36%
Demand – 18% was 26%
Contender – 23.8% was 34%
Hunter – 23.1% - was 33%
Trotter – 20.1 – was 25%
Sport – 30.5% - was 40%
Strider – 33.6% - was 42%
Charger – 30.75% - was 39%
Pacer – 45.5% - was 48%
Rider – 31.2% - was 44%
Horse 10 – 37% - was 45%

BOSS - Black oil sunflower seeds. NSC 5.6%. 15-16% protein, 40% fat. 6 oz cup weighs 3 oz.
BUCKEYE NUTRITION

Safe n’ Easy - 12.5% NSC pelleted, 16% - texturized (non tested)
Gro n Win - 5.89% starch, 9.1% sugar (per their nutritionist)
UnBEETable – 35% - 37% NSC

FARNAM

Platform Senior - 16.1%
Platform Mini & Pony - Total starch 18%, sugar 2.5% = NSC 20.5%

FEEDRITE (Canadian) Beet pulp pellets ESC 12.2% (this is WITH molasses)

HAYSTACK WILDBERRY HORSE TREATS

NSC 12.8%, (12.2 sugar, .6 starch)

HERITAGE Professional Feed (tested by Kathy Saucier May 2008) Located in OK.
NSC 19%, ESC 2.8, starch 16.2, protein 15.9%, iron 43

KER (Kentucky Equine Research)

Cool Balance - NSC – 29% (from company rep)

LUCERNE FARMS – Hi Fiber Gold ESC 2.5, starch 2.4 NSC= 4.9% Fat 3.8%. (chopped timothy/oat/alfalfa forage with soybean oil) Protein 9%.

PLAIN BEET PULP (MIDWEST AGRI)

MAC- PLAIN Beet Pulp - 13.4 sugar, .6 starch = 13.9

MAC - PLAIN Beet Pulp 18.6% sugar, .8% starch = 19.4% NSC.

MAC – Plain Beet Pulp – ESC – simple sugars 7.1% seems to always been under 1% starch so total NSC should be 8% or less.

MAC – Plain BP shreds – ESC 7.4%.

NUTRENA -
SafeChoice - 22.8% (6.4% sugar, 16% starch) (Solper)
Lite Balance 17.1% NSC (12.8% starch) Info from Nutrena
Life Design Senior – 19% (6% sugar, 13% starch) (Nutrena advisor)

POULIN:
Senior 31.3%
**Non-structural Carbohydrates (NSC)**

MVP - 17.4% (27% protein)
Stablemate 14 complete - 16.3%
Endure 10:12 - 33.7%
Endure 10:8 - 33.9%
Carb Safe - 10% or less

**PURINA:**
Horse Chow 100 - 16%
Horse Chow 200 - 18%
Strategy - 28%
Omelene 100 - 40.5%
Equine Adult - 20%
Equine Jr - 23%
Equine Sr - 22%
Complete Advantage 22.9% (beet pulp based)
Mare & Maintenance: 14-17% NSC according to their nutritionist
Nature Essentials (Mare & Main) supplement - 16% (protein about 12-14%)
Nature Essentials Born to Win 16% (but 32% protein)
WellSolve L/S ESC 2.3, starch 5.6 (NSC 7.9) NOTE: this sample tested iron at 886 ppm.

**SOUTHERN STATES** – Equi tested
Select 12 textured ESC 3.1, starch 14.9, NSC 18.0
Select 12 pelleted ESC 3.6, starch 25.5%, NSC 29.1%
Reliance Pleasure Textured ESC 3.7, starch 33.8%, NSC 37.5%
Reliance Pleasure Pelleted ESC .6, starch 34.4, NSC 35
Reliance High Fat Textured ESC 5.3, starch 31.3, NSC 36.6
Reliance High Fat Pelleted ESC 5.3, starch 23.3, NSC 28.6
Reliance All Grain Textured ESC 4, starch 38.3, NSC 42.3
Reliance hay Stretcher Pelleted ESC 4.8, starch 20.7, NSC 25.5
Legends Show & Pleasure Textured ESC 6.9, starch 22.5, NSC 29.4
Legends Show & Pleasure pelleted ESC 2.8, starch 23.4, NSC 26.2
Legends Grow & Perform Textured ESC 7, starch 26, NSC 33
Legends Grow & Perform Pelleted ESC 4.1, starch 19.4, NSC 23.5
Legends Mare & Foal Textured ESC 7.6, starch 15.3, NSC 22.9
Legends Mare & Foal Pelleted ESC 4, starch 16.6, NSC 20.6
Legends Maturity Pelleted ESC 2.3, starch 14.9, NSC 17.2
Legends Performance Textured ESC 5.8, starch 19.9, NSC 25.7
Legends Performance Pelleted ESC 3.7, Starch 6.5, NSC 10.2
Legends Racing Textured ESC 7.5, starch 14.1, NSC 21.6
Legends Fortified Pelleted Rice Bran Extruded pellet ESC 5, starch 17.4, NSC 22.4

**TRIPLE CROWN:**
TC 10% NSC: 38.9%, ESC 5.6, starch 33.3
TC 14% NSC 37.4%, ESC 5.6, starch 31.8
TC Complete NSC 20.7% Esc 8.9, starch 11.8
TC Senior NSC 13.2% Esc 6.8, starch 6.4
TC Growth NSC 13.4% Esc 7.8, starch 5.6
TC Low Starch NSC 16% Esc 5.6, starch 10.4
TC Lite NSC 9.5% Esc 5, starch 4.5
TC 12% supplement NSC 25.4% Esc 3.6, starch 21.8
TC 30% supplement NSC 11%, Esc 9.2, starch 1.8
TC Safe Starch Forage NSC 6.1% Esc 4.3, starch 1.8
TC Grass Forage NSC 12.6% Esc 8.1, starch 4.5
TC Alfalfa forage NSC 12.7% Esc 8, starch 4.7
TC Rice Bran NSC 25.3% Esc 9.1, starch 16.2