

What is 'High Sugar Grass'?

High Sugar Grass is the term given to new ryegrass varieties that have been bred specifically to contain very high levels of water soluble carbohydrates (sugar). These have been bred by the Institute of Grassland and Environmental Research (IGER), located in Aberystwyth UK.

Why were the High Sugar Grass varieties developed?

Breeding for increased quality, such as high sugar content to improve the efficiency of rumen function, is the next logical stage in the development of new grass varieties in the 21st century.

IGER's scientists discovered more than two decades ago that livestock grazing grass with a high sugar content produced more meat and milk. Forage breeders at the Institute have since worked to develop new varieties with this valuable quality trait, combined with other important agronomic characteristics such as high yield, persistency and disease resistance.

How do High Sugar Grasses work?

High Sugar Grasses provide extra energy (sugar) for the rumen microbes, which allows them to utilise more of the available protein from grass and clover. The proportion of this protein used in meat or milk production is increased, and the amount lost via feces and urine is reduced.

Are High Sugar Grasses GMO products?

No, the High Sugar Grasses have been developed using traditional grass breeding techniques.

What are the main economic benefits of High Sugar Grasses for the livestock farmer?

Extensive research has shown that High Sugar Grass varieties produce measureable performance benefits for dairy, beef and lamb producers such as:

*Improved milk yield in dairy cows (up to 6% more milk over grazing season)

*Improved live weight gains in lambs and beef cattle (up to 20%)

*Higher dry matter intakes (up to 4.41 lbs/head per day)

Are there any other significant benefits?

There are significant environmental benefits, due to more efficient use of feed nitrogen and a reduction (up to 24%) in the nitrogen excreted into the environment. This is highly significant in the context of future farming practices. Nitrogen emissions by ruminant livestock are considerable, so any technology that can reduce overall levels is increasingly important.

Are the benefits of High Sugar Grasses retained in silage?

Ongoing research is showing that the higher levels of water soluble carbohydrates in High Sugar Grasses can lead to a higher feed value silage, particularly where an effective inoculant is used to encourage an efficient fermentation. An effective additive will promote a rapid and efficient fermentation, which drops the pH quickly and maximizes the amount of sugar retained in the silage.

How much higher is the sugar content of High Sugar Grasses compared with other grasses?

The level of water soluble carbohydrates in all grass varieties varies according to the seasonal conditions and the growth period. Due to seasonal and management induced fluctuations in WSC content, comparisons cannot be made between varieties in different trials. However, research has shown that the High Sugar Grasses used in SucraSEED consistently contain higher levels of sugar when compared with other varieties in the same trial.

Sugar contents of 115 g/kg higher than those of control varieties have been recorded for SucraSEED High Sugar Grasses:

Variety	WSC g/kg	WSC g/kg	WSC g/kg
	1st Cut	2nd cut	5th cut
AberEcho*	388.0	422.8	364.2
Aber Linnet	331.4	347.8	278.7
Solid	319.8	343.7	248.5

*High Sugar Grass

Have other independent researchers measured the sugar content of different varieties?

Trials to compare sugar levels of varieties have been conducted in Northern Ireland by DARD (Dept. of Agriculture and Rural Development), in Germany by DSV and in Denmark by Hunsballe. In all studies, the High Sugar Grasses used in SucraSEED recorded the highest levels of WSC.

What level of WSC content is needed to make a difference to livestock performance?

Trials to date at IGER, comparing High Sugar Grasses with conventional varieties, have shown that significant improvements in animal performance were recorded when the High Sugar Grasses had water soluble carbohydrate contents at least 40 g/kg DM higher than the control varieties. The average WSC level (g/kg DM) from three IGER trials that demonstrated an increase in animal performance was 152 g/kg for SucraSEED High Sugar Grasses compared with 101 g/kg for the control variety. Research is ongoing in this area.

Aren't All modern tetraploid ryegrass varieties high in sugar?

No. Both sets of independent variety trials in Ireland and Germany have shown that it is not possible to generalize about the sugar content of tetraploids.

Are there any other High Sugar Grass varieties available other than those used in SucraSEED?

IGER pioneered the concept of High Sugar Grass over 20 years ago and has also evaluated the development in ruminant trials. Its scientists have the distinction of being the first breeders in the world to gain the UK National Recommended List approval for a variety that was specifically bred to contain high levels of sugar.

As a result of growing recognition of the importance of high quality forages, several of the world's leading breeding programs are looking to introduce varieties with high sugar content, however, this will take a number of years.

What High Sugar Grass Varieties are used in SucraSEED?

AberAvon Perennial Ryegrass

AberDart Perennial Ryegrass

AberEcho Hybrid Ryegrass

High Sugar Grasses are available for the first time in the U.S. exclusively in the SucraSEED line of products:

CASH COW

BEEF BANK

GREAT GAINS

THE HIGH CARB DIET FOR DAIRY AND BEEF



6% INCREASE
IN MILK PRODUCTION
FOR DAIRY COWS*



20% HIGHER
DAILY LIVE WEIGHT GAINS
FOR BEEF*

THE HIGH CARB DIET FOR LIVESTOCK



20% HIGHER
STOCKING RATES
FOR LIVESTOCK*

*Results are based on international trial data. Actual results may vary.

THE SCIENCE BEHIND SUCRASEED

When grazing ordinary grass, livestock cattle and sheep convert only about 20% of grass protein into milk and meat. The rest passes unused in feces and urine, which is not only inefficient, but can be detrimental to the environment.

SucraSeed improves the conversion rate of grass proteins, which in turn allows cattle and sheep to add body mass, produce more milk and reduce the amount of nitrogen passed in feces and urine. The secret lies in the increased energy available to the rumen microbes.

Ordinary grasses lack the energy that rumen microbes need to efficiently use the nitrogen available from the grass. The SucraSeed line of high sugar grasses contain a higher level of water soluble carbohydrates. This provides increased fuel, enabling the rumen microbes to process more of the protein in the grass. This protein can then be used to increase the production of milk and meat.

NON GMO PRODUCT

WITH

OVER 20 YEARS OF RESEARCH

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The Facts
About
High Sugar Grass

THE HIGH CARB DIET FOR LIVESTOCK