

## Brewers' Spent Grains for Cattle Feeding

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### ABSTRACT

Everybody is afraid from changes, but farmers are not solely. Food degree phosphoric acid can perform the same role that lactobacillus in a clear manner. They are to forms of performing the phosphoric addition: 1) in the brewery or 2) in the arrival of Brewers' Spent Grains (BSB) in the farm

**Keywords:** Brewers' Spent Grains, food grade phosphoric acid, silo, brewery, beer

### INTRODUCTION

Vallfogona de Balaguer (Noguera County) has about 1.884 inhabitants including 3 other aggregates: la Ràpita, l'Hostal Nou and la Cudosa. Nowadays is one of principal milk production from the Catalan lands

Many things have arrived to modify not only personal life, but also from the cows. 50 years ago the farmers had practically devoted his time for familiar living, being the commerce of relatively low incomes

In this moment all could be of higher magnitude. Lleida farmers were divided in two: the northern lands (mountain) and southern territories (plains). Northern people choose brown cows. Southern people, milk

Vallfogona de Balaguer enjoys from enormous territories to prepare farage, but needs to buy nutrition components abroad. There is a crossing between farmers and the food industry such as beer production

Breweries prepare beer from malt. After this stage, they are Brewers' Spent Grains is the insoluble part from maceration. This material is very rich in proteine (just below 25%, dry), but there are some others parts (polysaccharides for ruminants including of course cows

### Experimental

Accurately dried BSB gives the following contents:

- cellulose, 180 g / kg
- hemicelluloses, 246 g / g (only arabinoxylans)
- starch, 68 g / kg
- soluble sugars, 11 g / kg
- fats, 83 g / kg
- nitrogen matters, 250 g / kg
- mineral matters, 39 g / kg
- without nitrogen, 123 g / kg (only lignine)

Breweries do not permit to storage BSB. Trucks go to farmers as soon as possible in order to avoid infection of the plant. BSB exits from reactors at 74°C

### DISCUSSION

It is not unusual to employ lactobacillus as soon as possible in order to make stable a silo of every kind of farage, but not for BSB because lactobacillus dies at 74°C

The function of lactobacillus is to achieve pH 4.0 in all part of the silo. This problem disappears by using food grade H<sub>3</sub>PO<sub>4</sub> in order to go to pH 4.0

### RESULTS

A very stable and compact silo is obtained, typical infections are avoided. Cows are in a good state of health. Quality of milk is good as usual. It is possible to check the results obtained

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from the farm La Saireta (Vallfogona de Balaguer, Lleida)

### CONCLUSIONS

It is possible to avoid headaches by using very simple methods with the guarantee of not avoiding nutrient losses for our cows

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**Citation:** Dr. Josep Juanbaro, “Brewers' Spent Grains for Cattle Feeding”, *Journal of Animal Husbandry and Dairy Science*, 3(2), 2019, pp 25-26.

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