

Research Findings on Crimp Grain

Table 1: Feed Conversion Efficiency

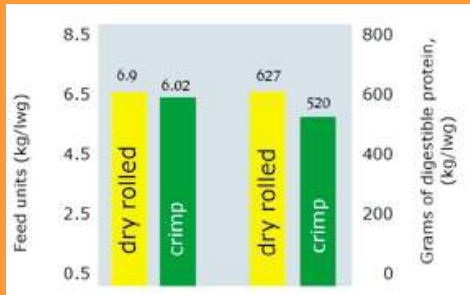


Table 1 shows that cattle are more efficient in converting rations based on crimped barley than dry rolled. The same applies to digestible protein. To achieve a 1kg lwg fattening bulls need to eat 12.8% more of dry rolled barley than crimped. The figure for digestible protein on the same basis is 17.1% more of dry rolled barley diet.

Table 2: Milk Production

| | Dry barley | Crimped Grain |
|----------------------|------------|---------------|
| Milk yield, kg/d/cow | 12.6 | 13.0 |
| Fat % | 4.28 | 4.31 |
| Protein % | 3.42 | 3.43 |

Table 2 shows the effect of grain preservation on the milk production of dairy cows. (Pohjanheimo et al, 1971)

Nutristore Gold C

Product Directions:

The recommended amount of Nutristore Gold C is at a minimum of 100,000 colony forming units (CFU) per gram. It is recommended to store the product in a cool dry place away from direct sunlight.

Checking Moisture Content:

1. Weigh 100g of a random sample of grain.
2. Dry the grain by placing a microwaveable proof dish and heat for 2 minutes.
3. Weigh sample and note weight loss.
4. Repeat the same process until the weight stays the same. The difference between the starting weight and the final weight is the moisture of the grain.

Example:

1. Weight of fresh grain from field = 100 g
2. Following 2 minutes in microwave = 80 g
3. Further 2 minutes = 70 g
4. Further 2 minutes = 60g
5. Further 2 minutes = 60 g
6. Moisture = 100 - 60 = 40%

| Moisture | Litres/ton | Pack/200Lt. | Tons-treated |
|-----------|------------|-------------|--------------|
| 25% - 30% | 5 | 2 | 40 |
| 35% - 45% | 3 | 3.5 | 70 |

For further details please contact your local Nutribio Rep

| | | |
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NUTRISTORE GOLD - C



Crimp Grain Additive

Nutristore Gold C

Following last years harvest, demand for Soya beans and currency fluctuations along with indications of low yields of grain in some European countries, increase in purchased feed costs make this year a compelling one for dairy farmers.

Considering grain as a feed option or to sell. There are various options available.

Combine dry crops and sell

Combine dry and store for rolling

Combine and crimp

Crimping grain

Is a process where the grain is harvested two to three weeks earlier than normal harvest and the moisture would be 35% to 40%. It is then put through a crimping machine that bruises the grain slightly exposing the starch, giving a one surface area rather than many surfaces in rolled or ground grain.

An additive is applied to maintain stability and reduce nutrient losses. It is then stored in a sealed clamp and can be fed 4 weeks on ensiling.

Crops that are suitable

Wheat, barley, maize, beans and lupins.

Advantages of Crimp Grain

1. Grain attains its peak nutritional value when the moisture is 35% to 45%.
2. Less grain loss of 6% to 10% from shedding.
3. Higher Protein %.
4. It is dustless, easy to handle and does not require any further processing.
5. It is a fully traceable product that is high in energy.
6. Crimp grain >35% moisture does not carry a phosphorous tag under the nitrate directive.
7. Not weather dependent.
8. Higher yield of quality straw.
9. Less digestive upset , allowing higher feeding levels than dried grain.
(Research in Finland and the UK has shown a higher nutritional value and improved utilisation of approximately 10%.)



Nutristore Gold C

Nutribio have an effective crimp grain additive called '**Nutristore Gold C**' that is effective in preservation and cost effective to you

Nutristore Gold C is a biological inoculant for treating crimp grain. It is composed of three homo and heterofermentative lactic acid bacterial strains plus enzymes.

Being optimally balanced, they ensure a rapid fermentation process. The desired acidity is achieved quickly, while at the same time the growth of spoilage organisms is drastically reduced. Its unique formulation reduces spoilage when ensiled and on exposure to air.

Each 200 gram pack treats 20 tons of grain. Dilute in clean cold water and see table below for application rates. The grain at harvesting should have a moisture content of 30% to 40% and should be ensiled within 24 hours of harvesting.

Nutristore Gold C

Application Rate:

| | |
|-----------------|-----|
| Pack size-grams | 200 |
| Tons treated | 20 |