



"FiveF"

"Forages and Farm Feeds For the Future"



ALKAGRAIN 2009

Alkagrain allows the highly cost effective preservation of grain on farm for use in a wide variety of feeding situations. The process has proven successful over several seasons in UK, Ireland and Australia with further growing interest from New Zealand & USA. It is built on the well established Home n' Dry formula used to conserve crops at Alkaline pH without fermentation for over 20 years.

Alkagrain is produced by crimping a dry mature cereal crop and mixing this with Home n' Dry Pellets prior to storage. This releases ammonia into the crop killing off moulds and bacteria, raising the pH into the alkaline range (pH 8.0 to 9.0). In effect we are utilising protein that will be bought in the winter to conserve and enhance the grain during storage. Alkagrain provides the following advantages.

- Lower final cost than other methods of grain storage and treatment.
- Increased protein level to 15% to 20%+ Crude Protein as required.
- Alkaline pH provides a buffer to improve Rumen function.
- Higher Dry Matter Yield than crimping.
- Eliminates Drying Cost.
- No further processing in the winter.

Cost Comparison of Alkagrain vs other Grain Options

	8.6t/ha Wheat Crop Options			
	Alkagrain	Combine Grain	Crimp Grain	Soda Grain
Fresh Yield t/ha	8.6	8.6	9.8	8.6
DM Yield t/ha	7.05	7.05	6.75	7.05
Combining Cost £/ha	75	75	75	75
Crimping Cost (incl additive) £/ha	160	0	195	0
Drying Cost £/ha	0	125	0	0
Home n' Dry Cost £/ha (2)	150	0	0	0
Caustic Cost £/ha (2)	0	0	0	228
Grain Milling Cost £/ha	0	90	0	0
Diet Feeder Cost £/ha	0	0	0	60
Total Cost (Before Protein Bal) £/ha	425	270	270	280
Protein Added to Balance (1) £/ha	0	310	310	310
Total Weight Dry Matter Fed t/ha	7.35	8.3	7.95	8.6
Cost / tonne DM fed £	53	73	73	79

(1) Need to Add a 50:50 Mix of HiPro Soya and Rape @ £260/t to give 16% Protein Meal Equivalent

(2) Home n' Dry at 30kg per tonne @£590/t, Caustic Soda @ £825/t

Assumes Storage Costs are similar

Please turn over the page for further technical pointers with regard to Alkagrain production.



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Technical pointers for Alkagrain Production

The Crop

Alkagrain can be produced from all types of cereal grains at harvest – wheat, barley, triticale, oats, rye, maize (corn), sorghum (milo), millet. The grain should be mature and, ideally, in a dry matter range of 75% to 80% This is drier than for conventional crimping, and should improve combine work rate.

The crop can be harvested in damp conditions as a little surface moisture can speed the process in storage.

Processing

The grain should be passed through a conventional crimping machine.

The Home n, Dry Pellets need to be mixed thoroughly with the crop, this can be done in one of two ways:-

1. Mix pellets into the stream of grain in the crimper grain hopper.
2. Crimp the grain then mix in the pellets, ideally through mixer wagon before storing.

THE PELLETS SHOULD NOT BE MIXED WITH THE GRAIN BEFORE CRIMPING AS THIS WILL GREATLY SLOW DOWN CRIMPING SPEED.

Pellet Inclusion Rate

Wheat (& All Grains Excl Barley)

Barley

Crop DM %	Min kg	Max kg	CP Added %	Crop DM %	Min kg	Max kg	CP Added %
<75	35	60	4.35 – 8.75	<75	30	50	4.35 – 7.25
75 – 83	30	45	4.35 – 6.50	75 – 80	25	35	2.00 – 5.10
>83	25	30	3.65 – 4.35	>80	<i>Call For Advice</i>		

Higher levels can be used in certain circumstances to increase protein levels – please call for advice.

Storage

Store in a clean dry place well sealed with a plastic sheet. Avoid lengthy exposure to rain after opening.

Feed Out

Alkagrain has considerable advantages in the diet. To get the most from these it needs to be characterised correctly. Standard laboratory analysis can be misleading. Diets need to contain good levels of sugar, sulphur, Iodine and Vitamin E. The protein level should be properly accounted for.

You or your nutritionist can get help on these matters by contacting our nutrition specialists as follows.

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