

# A GUIDE TO COOLING YOUR ADESCO TREATED GRAIN & BEANS

CUSTOMER ADVICE | GRAIN MANAGEMENT | AUGUST 21

Once crops have been successfully harvested and treated; the first few weeks of management in store are critical. When first stored, grain temperature will be close to the ambient temperature on the day it is processed. It will only cool by coming into contact with colder air. Small quantities can be cooled by turning or moving, but large quantities require aeration. To ensure it is safely stored throughout the full storage period; follow this why, when and how.

## WHY?

Aeration primarily helps maintain quality during storage by preventing insects from reproducing and growing.

Over time the temperature of grain or beans in storage may rise due to the activities of plant cells, moulds, bacteria, insects and mites. Each of these require different environmental conditions to function, but most struggle to survive / reproduce at temperatures below 10°C. Reducing its temperature to below this threshold as quickly as possible is key to good storage.

## HOW?



In the weeks following harvest it is absolutely critical to accurately monitor the temperature of your stored grain or beans every 2 or 3 days.



A temperature monitoring system is recommended as good practice. Adesco can advise on management & record keeping for quality audits.



At a minimum, walk the grain and measure temperatures using a probe at 4-6m spacings - and always record your readings.



Check the weather forecast for day and night temperatures. If these are 4°C less than the grain or beans temperature then aerate even if weather is not dry.

## WHEN?

Anytime provided the "Golden Rule" applies:



**Only cool by aeration when the ambient air temperature is at least 4°C lower than the grain temperature.**

For example, if grain temperature is 20°C, daytime temperature is 18°C and nighttime temperature is 12°C. Only aerate at night.

## STORED GRAIN AND BEANS TEMPERATURE TARGETS

temperature should not exceed 25°C

temperature below 15°C within 14 days of harvest

temperature below 10°C within 28 days of harvest

### Air Extraction When Aerating

Warm air blown up through the grain will condense in the airspace above the grain on the cold roof structures. This warm air needs to be removed using an extraction fan or naturally through opening at the highest point in the store.

For advice on setting up temperature monitoring / aeration procedures please contact  
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