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Grain Drying & Storage - Quick Reference Chart

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GRAIN DRYING & STORAGE - QUICK REFERENCE CHART

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OPERATING CONDITIONS (CORN)

Drying System	Suggested Maximum Moisture Content, %	Suggested Airflow CFM/BU	Drying Air Temp., °F	Relevant Fact Sheets
Natural air/Lo temp (full bin drying)	(Sept) 16% (Nov) 18%	1-2	2-10° above outside	AEN-22,23
Layer drying (no stirring)	22	2-5	10-20° above outside	AEN-56
(with stirring)	22	2-5	15-30° above outside	AEN-56,62
Batch-in-bin (4ft/no stirring)	28	8-12	120-140°	AEN-57
(6ft/stirred)	28	7-10	120-160°	AEN-57,62
In-bin continuous flow	28	3-12	120-160°	AEN-62,63
Automatic batch or continuous flow	28	75-150	180-240°	AEN-61

Dryeration - Dry corn to between 16% and 18% with high speed dryer; transfer to tempering bin and hold for 4-10 hours; then aerate at 1/2-1 cfm/bu to remove last 2-3 points of moisture. Move dry cool grain to storage bin.

Dryeration with in-bin cooling - Move hot corn from dryer into storage bin. Cool immediately with 1 cfm/bu to remove 1/2-1 point of moisture.

Combination drying - Dry corn to between 16% and 18% with high speed dryer and move hot to another drying bin. Finish drying with natural air or low temperature system.

(continued)

RECOMMENDED STORAGE MOISTURE CONTENTS FOR KENTUCKY (AEN-45)

	Through Winter (Nov. - March)	Through summer
Corn	15.0	13.0
Soybeans	13.0	11.0
Milo	14.0	13.5
Wheat	13.5	12.5

AERATION & COOLING (AEN-45)

-All grain must be cooled after drying.

-Aeration is recommended for all storages greater than 1000 bushels & storage longer than 30 days.

-Grain should be cooled when it is 15-20 degrees warmer than the monthly average temperature.

APPROXIMATE COOLING TIMES

Cfm per bushel	Hours of Fan Operation per cooling	Operating Procedure
1	15-20	Operate fans when temperature is in desired range and humidity is less than 70%.
3/4	20-25	
1/2	30-40	
1/4	60-80	
1/5	75-100	Fans may be operated continuously until grain is cool.
1/10	150-200	

If no airflow data is available, a rough estimate is 1000 cfm per fan horsepower (i.e. a 5 hp fan will provide about 5000 cfm)

RECOMMENDED GRAIN TEMPERATURES (AEN-45)

MONTH	GRAIN TEMPERATURE
September	65° - 70°
October	55° - 60°
November	45° - 50°
Dec - Feb	35° - 40°

Operating fans at temperatures below 25° is not recommended except in emergency situations.

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