

Feeding Small Grains to Livestock

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Grain = Carbohydrates = Energy

Grain	Carbohydrate as % DM	Type of CHO as % of total DM	
		Starch	Fermentable CHO
Corn	82	72	10
Oats	70	44	26
Wheat	74	62	12
Barley	75	57	18
Rye	74	58	16
Triticale	75	61	14

Energy from starch is released in seconds-minutes
Energy from fermentable CHO released over hours-days

Feedlot Beef Rations

- 90% Concentrate : 10% Forage typical during finishing
- Barley, Wheat, Triticale... can replace corn if ration appropriately balanced
- Oats can replace 90% of corn
- Rye...very limited work... can replace at least 20% of corn

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Lactating Dairy Cow Rations

- 45% Concentrate : 55% Forage fairly typical
Possibly 70% concentrate : 30% forage at extremes
- Oats, Barley, or Wheat can replace 100% of corn
- Triticale can replace at least 66% of corn*
- Rye can replace at least 25% of corn*
- * Limited work available on feeding triticale and rye to dairy cows

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Small Grains for Pigs

Grain	Growing Pigs			Lactating
	< 40 lb	40–150	>150 lb	Sow
Barley	NL	NL	NL	NL
Oats	20%	30%	40%	10%
Rye	0	15%	35%	10%
Triticale	25%	NL	NL	40%
Wheat	NL	NL	NL	NL

NL = No limit in complete diet balanced for energy and essential amino acids

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Small Grains for Poultry

Grain	Chickens		Growing
	Broiler	Layer	Turkey
Barley	30%	50%	70%
Naked oats	40%	50%	65%
Rye	10%	35%	ND
Triticale	NL	30%	ND
Wheat	20%	25%	NL

NL = No limit in complete diet balanced for energy and essential amino acids

ND = insufficient peer reviewed data

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Small Grains with Enzymes for Poultry

Grain	Chickens		Growing
	Broiler	Layer	Turkey
Barley + ENZ	NL	NL	NL
Triticale + ENZ	NL	NL	ND
Wheat + ENZ	NL	NL	NL

ENZ = supplemental enzyme with Xylanase and Beta-Glucanase Activity

NL = No limit in complete diet balanced for energy and essential amino acids

ND = insufficient peer reviewed data