

Cottonseed meal

- Crude ash 6-8%
 - Phosphorus ↑ (0.70-1.30%)
 - calcium ↓ (0.20-0.30%)
- ME
 - 2000 kcal/kg for poultry
 - 2500 kcal/kg for ruminant
- Limiting factors for the usage of meal:
 - Polyphenolic compound: gossypol

Cottonseed meal

- Gossypol in cottonseed
 - Free and bound form
- Free form
 - Toxic effect
- During manufacturing of meal
 - Free gossypol
 - Some of it pass to fat
 - Some are bound with lysine and therefore lysine utilization ↓
 - Some of it pass to meal

Cottonseed meal

- Cottonseed meal produced in Turkey
 - Free gossypol 0.05-0.07%
 - bound gossypol 0.4-0.6%

Cottonseed meal

- Poultry diets 5-10%
 - protein, fat, fiber, gossypol content must be determined
- Dairy cattle
 - Expeller meal 1 kg/day
 - solvent extraction meal 2 kg/day
- Large quantities of expeller meal
 - Negatively effects on the quality of milk ant butterfat
- Not given much to pregnant animals
 - Otherwise abortions occur
- Beef cattle 1-2 kg/day
- Sheep 300 g/day
- 20% for ruminant concentrates
- 1 kg/day for horses with oat
 - Fazlası sindirim bozuklukları

Canola meal

- Solvent extraction meal
 - 38-46% CP
 - 1% EE
 - 11-13% CF
 - 8 % crude ash
 - ME
 - 2100 kcal/kg for poultry
 - 2500 kcal/kg for ruminant
- 20 for poultry diets

BIOFUEL INDUSTRY BYPRODUCTS

- Biodiesel and
- bioethanol

BIODIESEL INDUSTRY BYPRODUCTS

- In biodiesel production
- Plant oils, animal fat, bitkisel yağlar, waste fried oils
- Methanol as alcohol,
- Alkali catalysts as catalysts (sodium hydroxide, potassium hydroxide)

Glycerol

- Glycerol crude energy 4300 kcal/kg
carbohydrates 4200 kcal/kg,
- protein 5600 kcal/kg,
- Long chain fatty acids 9400 kcal/kg
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- Glycerol NEL 2300 kcal/kg

Gliserol

- Özellikle geiş dnemindeki yksek verimli st ineklerinde (doęum ncesi 3 hafta ve doęum sonrası 3-4 haftayı kapsayan dnemde)
- gliserol kullanımı enerji gereksinimine katkıda bulunmakta,
- yaęlı karacięer ve ketozis gibi metabolik bozuklukları nlemekte ve
- laktasyon performansını arttırmaktadır.

GLYCEROL

- For transition period dairy cattle:
 - 300-500 g/day
- 10% for dairy concentrates
- 10% for beef concentrates
- 5% for increasing pellet quality
- 10% for poultry diets