



Managing Input Costs & Exploring Alternatives – Corn DDGS

Dr Prashant Shinde, PhD Animal Nutrition
Commercial Director – Dairy Feed & Nutrition,
Cargill Animal Nutrition & Health





Corn DDGS



- Excellent source of Protein, Energy, & Phosphorus
- High variation in nutrient profile (even between batches of same plants) & color
- Watch out for Aflatoxin, Sulfur & Protein (Amino Acid) digestibility

Parameter	Average	MIN	MAX
Moisture	11.8	8.9	15.0
Crude Protein	27.4	24.0	32.4
Crude Fat	10.4	8.1	12.0
Ash	4.8	3.6	6.0
ADF	9.0	7.7	10.4
NDF	25.9	22.6	29.4
Phosphorus	0.8	0.7	0.9
Sulfur	0.5	0.2	0.8
Glycerol	7.4	6.0	9.1
ivPD	2.5	1.8	3.3
Aflatoxin	135.0	7.3	398.7

*110 samples, as such basis





Beyond Proximate analysis: ivpd, nutrient focus



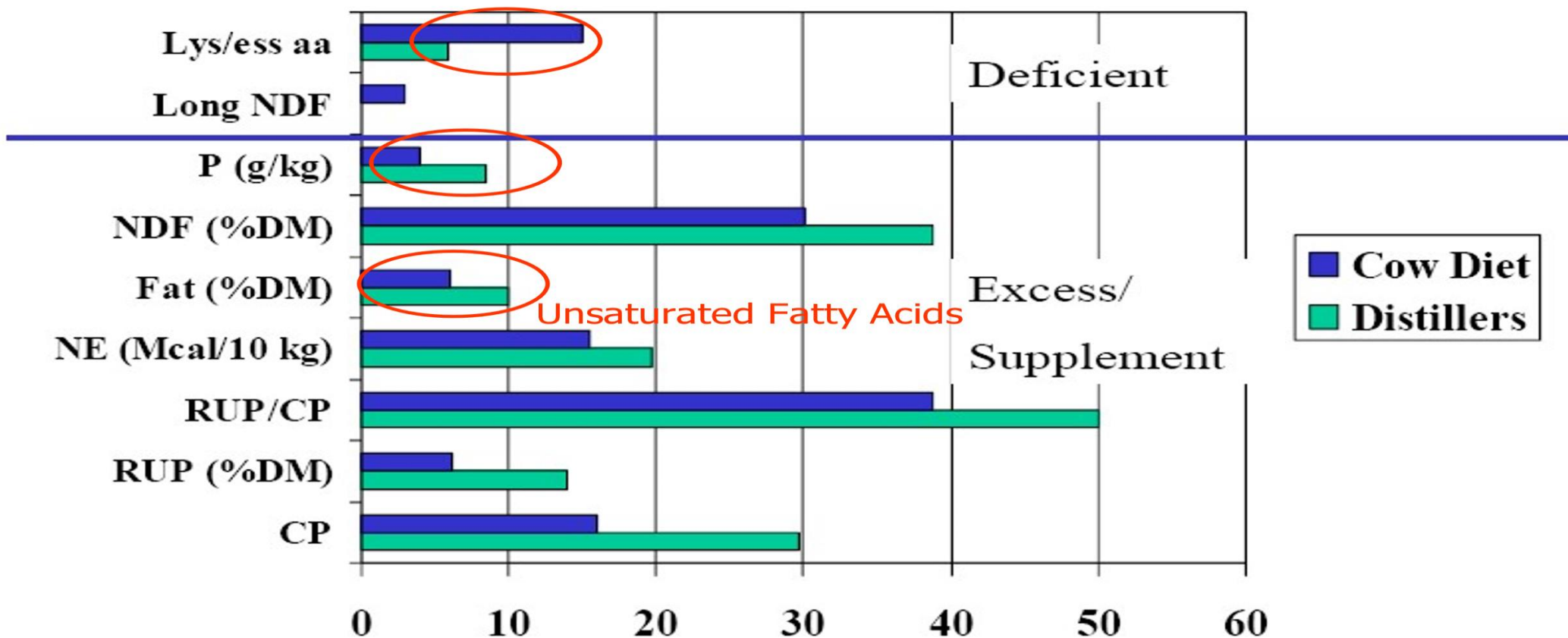
Parameter	Average	MIN	MAX	Standard
ivPD	2.5	1.8	3.3	4.06
AAD IDX	4.9	3.5	6.4	7.9
% AAD ↓	38	55	19	

- It's not about corn DDGS, RSM and soybean meal...
 - It's about starch, sugar, RDP, amino acid, dig. NDF...
- Look for best cost alternative sources of nutrients
- If starch cost is high, evaluate alternative nutrient strategies





Distillers Grains vs. Lactating Cow Diet



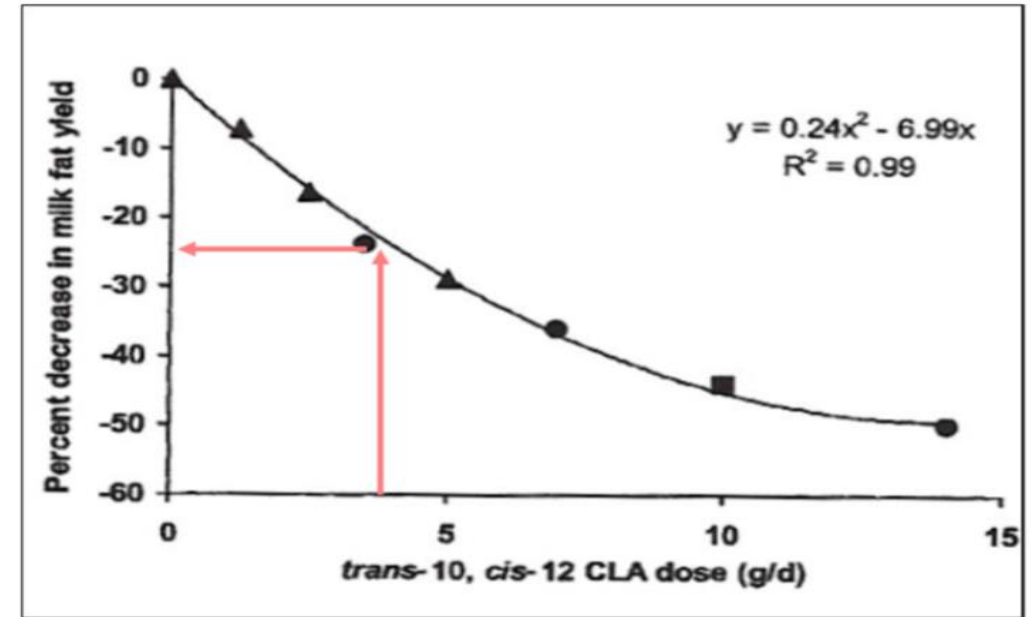
©1999 L. E. Armentano, UW-Madison



Fat in Corn DDGS



TOTAL FAT	%	10.4
UNSAT FAT	%	8.8
SAT FAT	%	1.6
OLEIC, C18:1	%	2.5
LINOLEIC, C18:2	%	5.3
LINOLENIC, C18:3	%	0.2
RUFAL	g/kg	80.0
BARAL	g/kg	55.5



- Impact of high levels of UNSAT fat (BARAL) – resulting in milk fat depression in dairy animals
- Reduced fiber digestion in rumen
- Lower farmgate milk price realization for farmer
- Opportunities for corn distillers to extract oil post distillation process



Operation/ Production issues



No issues with inclusion levels of 10 to 12%, beyond this following issues notices:

- soft pellets, easily broken down (lower PDI)
- increase in fines
- reduced through-put of pellet machine by 20 to 35%
- pellet mill die slipping





Way Forward



- **Stakeholders – sustainable corn supply chain (productivity & quality)**
- **Corn Distillers focus optimizing drying temperature & time; corn DDGS with low fat**
- **Feed manufacturers need to look beyond price of ingredient & proximate analysis**
- **Research on corn DDGS, impact on pellet quality & production issues**





Thank you

