

Distillers grains in dairy rations

Lee Kilmer

Iowa State University

Nutrient Content of Distillers Grains

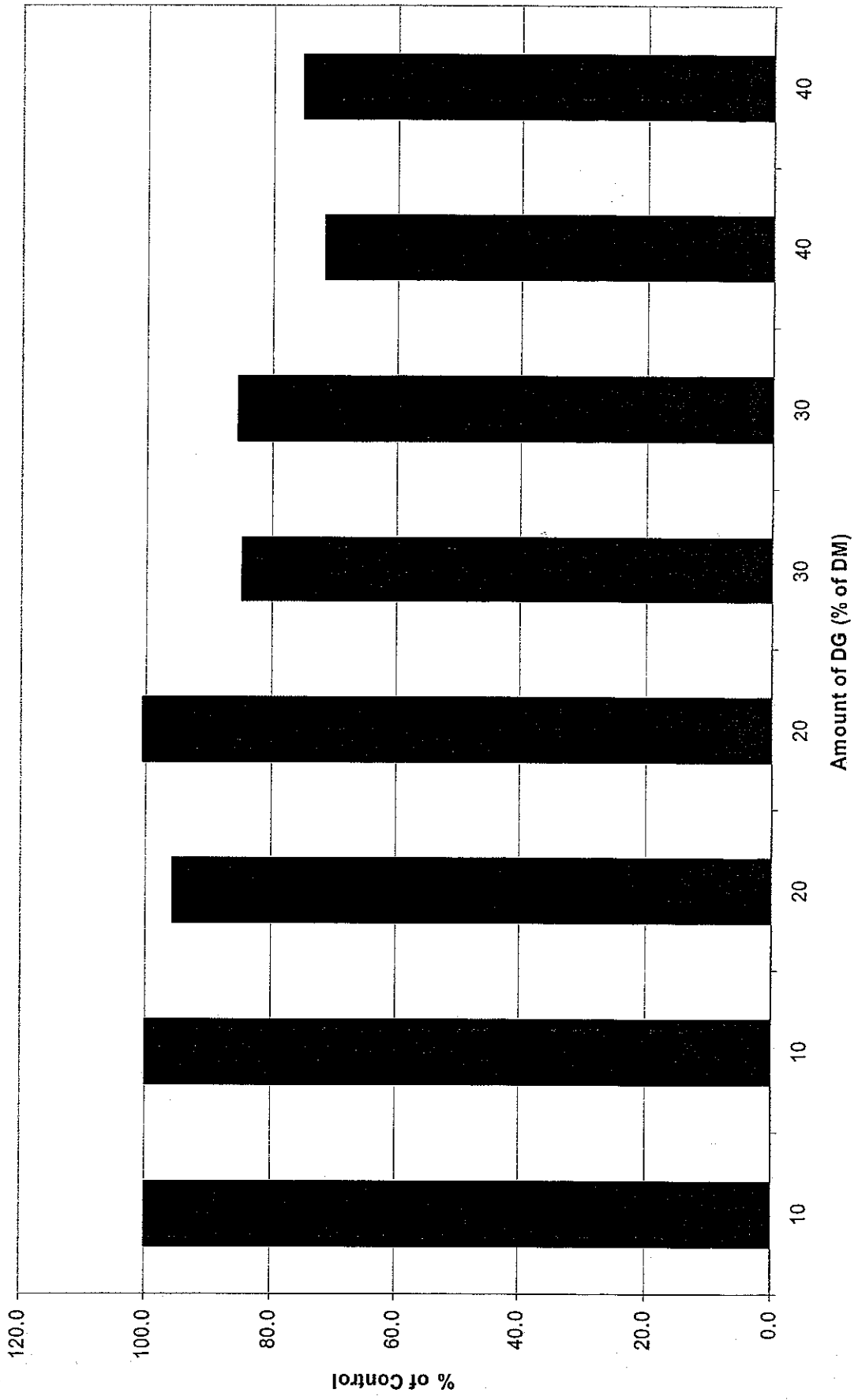
(100% Dry Matter Basis)

<u>Nutrient</u>	<u>Average</u>	<u>Range</u>
Dry Matter, %	89.3	87.3-92.4
Crude protein, %	31.0	28.7-32.9
RUP, % of CP	57	47-63
Fat, %	10.6	8.8-12.4
ADF, %	13.6	8.0-18.1
Ash, %	6.1	3.0-9.8

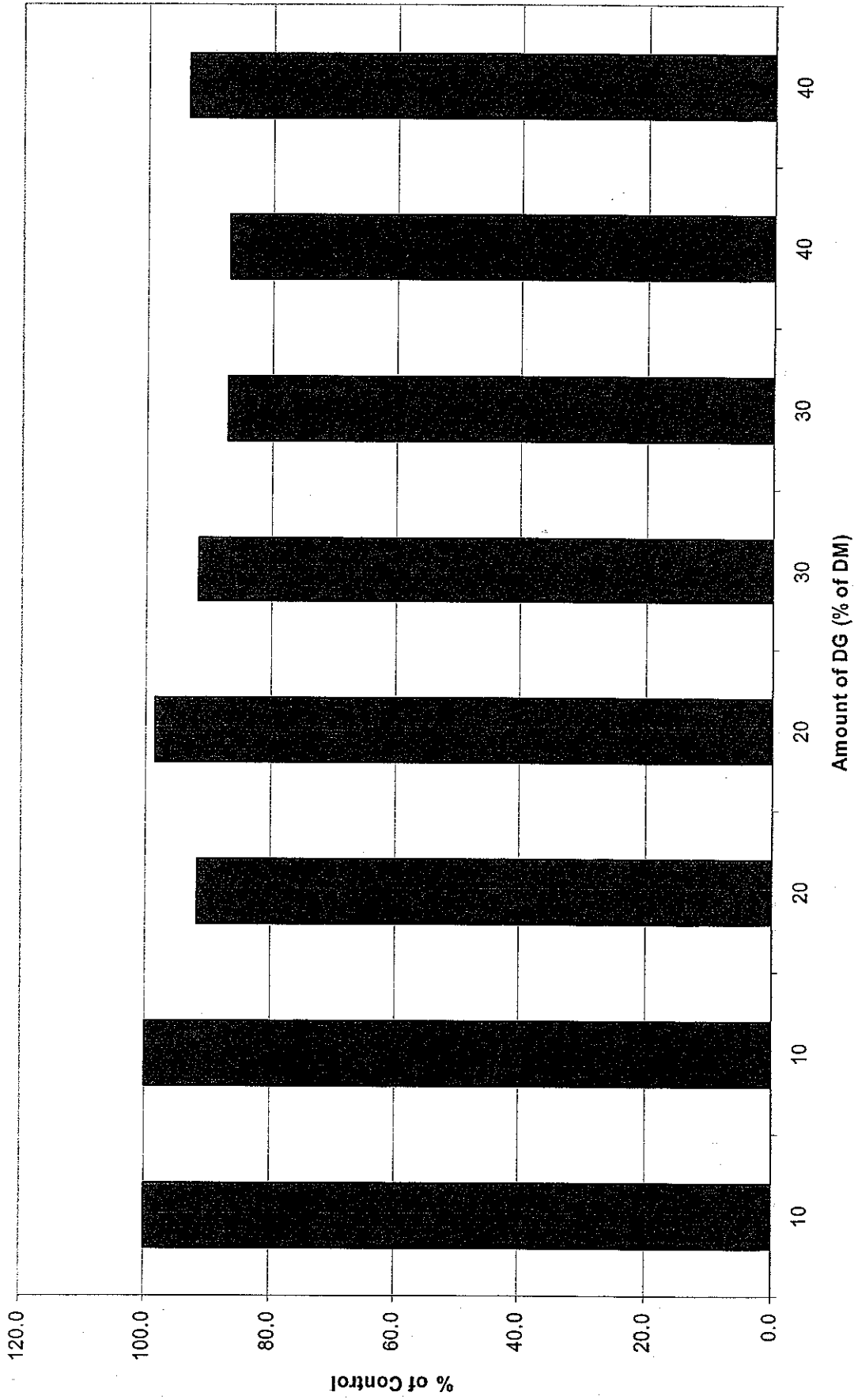
Research trials

**What can we learn from the data about feeding DG
(both wet and dry) to lactating dairy cows?**

DMI - Wet DG



Milk Yield - Wet DG



Milk Composition

Milk fat

- not affected as long as maintain adequate fiber levels
- fat in DGS is mostly unsaturated (60% linoleic)
- slight increases in “healthy” fatty acids (CLA)

Milk protein

- seldom affected unless dietary protein is limiting
- corn typically low in lysine so that may limit milk protein
- most research studies showed no effect on milk protein %

Ration Considerations

Diets containing 50:50 forage:concentrate

- If equal proportions of alfalfa & corn silage

DG can replace most or all protein supplement

- If mostly corn silage

More DG can be fed but may need some other protein supplement (check lysine and Phos levels)

- If mostly alfalfa

Less DG likely needed to supply diet CP

How Much Distiller's Grains Can be Fed to Dairy Cows?

Recommend max. of ~ 20% of ration DM

- 10-13 lb/d of dried
- 30-40 lb/d of wet

Fat levels may be limiting factor

- fat from DGS can make up 2% of diet (if only fat source)
- thus DGS containing 12% fat should be limited to 17%
(2% max fat / 12% fat in DGS) X 100 = 16.7% in diet

Just a side note ...

The Iowa dairy industry is growing

- more dairy cows now than in 2005 (up 5%)
- expansion continues – mostly in NW Iowa (I-29 corridor)
- new dairies from western states and the Netherlands

Most of new dairies are 300 to 1500 or 2500 cows

- greater potential to use DGS

In summary...

Distillers grains can be a very cost effective feedstuff to use in diets for lactating dairy cows

Both wet and dry distillers grains can be fed at 20% of the diet DM without any decline in milk yield or composition

Producers should be aware of differences in nutrient composition between distillers coming from different ethanol plants and from the same plant at different times