200 Effects of wet distillers grains plus solubles concentration in steam-flaked corn-based finishing diets on nutrient digestibility. M. K. Luebbe*[1], K. H. Jenkins[1], J. Patterson[1], E. K. Buttrey[2], and J. C. MacDonald[1,3], [1]*Texas AgriLife Research, Amarillo,* [2]*Texas AgriLife Extension, Amarillo,* [3]*West Texas A&M University, Canyon.*

Six ruminally and duodenally cannulated crossbred steers (BW = 481 ± 18 kg) were used to determine effects of corn and sorghum based (<15% sorghum) wet distillers grains plus solubles (WDG) on nutrient digestibility. Seven periods consisted of 17 d of adaptation and 4 d collection of feces, duodenal and ruminal samples. Steers were fed twice daily in equal proportions. Fecal and duodenal samples were collected 3 times daily with sampling time advancing 1 h to represent every hour between feeding. Ruminal fluid samples were collected in the same manner with the addition of samples collected before feeding and 8 h post-feeding each d during the 4 d collection period. Wet distillers grains (0, 15, 30, 45, and 60% dietary inclusion; 0WDG, 15WDG, 30WDG, 45WDG, and 60WDG, respectively) replaced cottonseed meal, supplemental fat (yellow grease), urea, and steam-flaked corn (SFC). Additionally, a dry-rolled corn control diet (DRC) was included. Dietary fat was set at a minimum of 6.5% and alfalfa hay was included at 10% of diet DM. Contrasts included DRC vs. SFC, and linear and quadratic effects of WDG level. Average ruminal pH was not different ($P = 0.99$). Change in ruminal pH was lowest ($P < 0.01$) for the DRC treatment. Dry matter and OM intake were not different ($P > 0.15$) among WDG level. Intake of NDF linearly increased ($P < 0.01$) with WDG level. Starch intake responded quadratically ($P = 0.06$) with WDG level. Total tract DM, OM, and NDF digestibility decreased linearly ($P < 0.01$) with WDG level. Total tract starch digestibility responded quadratically ($P < 0.01$) with WDG level (98.1, 99.0, 98.6, 98.2, and 97.4%; 0WDG, 15WDG, 30WDG, 45WDG, 60WDG, respectively). Dry-matter, OM, and starch intake was not different ($P > 0.80$) for DRC and SFC whereas intake of NDF was greater ($P = 0.04$) for DRC compared with SFC. Total tract DM and OM digestibility was not different ($P > 0.45$) for DRC and SFC. Total tract starch and NDF digestibility were greater ($P < 0.01$) for SFC compared with DRC. Level of WDG concentration and corn processing method impacts nutrient intake and digestibility.

Key Words: wet distillers grains, digestibility, corn processing

201 Effects of wet distillers grains plus solubles concentration in steam-flaked corn-based finishing diets on performance and carcass characteristics of beef steers. M. K. Luebbe*[1], T. C. Davis[1], K. H. Jenkins[1], F. T. McCollum III[2], N. A. Cole[3], and J. C. MacDonald[1,4], [1]*Texas AgriLife Research, Amarillo,* [2]*Texas AgriLife Extension, Amarillo,* [3]*USDA-ARS, Bushland, TX,* [4]*West Texas A&M University, Canyon.*

Six hundred crossbred steers (365 ± 35 kg) were used in a randomized complete block design to determine effects of a corn and sorghum based (<15% sorghum) wet distillers grains plus solubles (WDG) on animal performance and carcass characteristics in steam-flaked corn (SFC) diets. Forty-eight pens were utilized resulting in 8 replications per treatment. Wet distiller's grains (0, 15, 30, 45, and 60% dietary inclusion; 0WDG, 15WDG, 30WDG, 45WDG, and 60WDG, respectively) replaced cottonseed meal, supplemental fat (yellow grease), urea, and SFC. Additionally, a dry-rolled corn control diet (DRC) was included. Dietary fat was set at a minimum of 6.5% with supplemental fat from yellow grease. Alfalfa hay was included at 10% of diet DM. Contrasts included DRC vs. SFC, and linear and quadratic effects of WDG concentration. Final BW, ADG, G:F, HCW, and fat depth were greater ($P \leq 0.05$) for SFC than DRC. Dry-matter intake tended ($P = 0.06$) to be greater for DRC than SFC. Marbling score, dressing percent, and LM area were not different ($P > 0.40$) for DRC and SFC. Final BW, ADG, HCW, fat depth, and marbling score decreased linearly ($P < 0.01$) with WGDS inclusion level. Gain efficiency and DMI responded quadratically ($P < 0.01$) across WDG inclusion levels. Dressing percent tended to decrease linearly ($P = 0.07$) with WDG level and LM area was not different ($P = 0.31$) across WDG inclusion levels. Feeding SFC improved animal performance and carcass characteristics compared with DRC. The relative energy content of WDG in SFC-based diets appears to dilute the energy density of the diets and negatively impacts animal performance.

Table 1. Distillers grains and animal performance

Item	0WDG	15WDG	30WDG	45WDG	60WDG	DRC	SEM
Final BW, kg[a]	616	614	600	597	581	601	7
DMI, kg	11.3	11.5	11.5	11.4	10.5	11.7	0.2
ADG, kg[a]	2.05	2.02	1.91	1.89	1.75	1.92	0.05
G:F, g/kg[a]	182	176	166	166	167	163	3

[a]Calculated from HCW divided by a common dressing percentage of 63%.

Key Words: wet distillers grains, corn processing, finishing diets

202 Supplementing modified wet distillers grains with solubles to long yearling steers grazing native range. K. M. Rolfe*, W. A. Griffin, T. J. Klopfenstein, and G. E. Erickson, *University of Nebraska, Lincoln.*

A 2-yr study was designed to evaluate the effects of supplementing modified wet distillers grains with solubles (MDGS) to long yearling steers while grazing native range (warm season grass). Steers (n = 240; BW = 229 ± 16 kg) were backgrounded on cornstalk residue from late fall to mid-spring (144 d). While grazing cornstalks calves were supplemented 2.27 kg/steer daily of Sweet Bran. Following backgrounding steers were allowed to graze smooth bromegrass pastures for 21 d. After grazing smooth brome calves were weighed, stratified by BW, assigned randomly to summer grazing treatments, and relocated to graze Sandhills range. Summer grazing treatments included: grazing native range with no supplementation (CON); and grazing native range with MDGS supplementation at a level of 0.6% BW (SUPP). Modified wet distillers grains with solubles was fed daily on the ground. Steers were allowed to graze Sandhills range for the remainder of the summer grazing period (137 d) before entering the feedlot in early fall. Upon time of harvest cattle were serially slaughtered in 2 groups within each summer grazing treatment. At the time of summer treatment assignment, BW was not different between SUPP and CON steers ($P = 0.36$). However at feedlot entry, SUPP steers were 47 kg heavier ($P < 0.01$) than CON steers. Therefore, SUPP steers had 0.31 kg greater ($P < 0.01$) ADG than CON steers. Because SUPP steers were heavier than CON steers at feedlot entry, 24 fewer days on feed in the feedlot ($P < 0.01$) were required to achieve the same final BW ($P = 0.85$). Feedlot ADG and DMI were not different between SUPP and CON steers ($P > 0.47$). Similarly, HCW, LM area, and BF did not differ between the 2 summer grazing treatments ($P > 0.19$). These data show that MDGS can be fed on the ground, increase gains during summer grazing, and decrease days on feed in the feedlot.

Key Words: modified wet distiller grains, supplementation, yearling steer

203 Influence of feeding dried distillers grains plus solubles in potato byproduct-based finishing diets. J. I. Szasz*[1,4], D. S. Secrist[2], K. K. Karges[3], C. W. Hunt[1], K. A. Johnson[4], and T. N. Bodine[5], [1]*Univer-*

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TABLE OF CONTENTS

Sunday, July 11, 2010
Symposia and Oral Sessions

Late-Breaking Original Research (Abstracts LB1–LB8)...Page i
Triennial Growth Symposium: Dietary Regulation of Growth and Development (Abstracts 1–7)...Page 1
ASAS Western Section Graduate Paper Competition (Abstracts 8–31)...Page 4
Symposium: National Extension Workshop: The Impact of Major Food Policy Shifts on the US Food Supply and its Producers: Animal Welfare Issues (Abstracts 32–36)...Page 12

Monday, July 12, 2010
Poster Presentations

Animal Behavior and Well-Being: Livestock (Abstracts M1–M23)...Page 14
Animal Health: Inflammation, Infection, and Stress (Abstracts M24–M56)...Page 22
Animal Health-Johne's Disease (Abstracts JDIP): Johne's Disease (Abstracts M57–M71)...Page 32
Breeding and Genetics: Beef Cattle (Abstracts M72–M92)...Page 37
Food Safety 1 (Abstracts M93–M102)...Page 44
Forages and Pastures: Dairy Forages and Forage Quality (Abstracts M103–M117)...Page 48
Forages and Pastures: Grazing and Forage Management (Abstracts M118–M131)...Page 54
Immunology and Pathology: Poultry Immunology and Pathology (Abstracts M132–M141)...Page 59
Lactation Biology 1 (Abstracts M142–M149)...Page 62
Meat Science and Muscle Biology: Beef Quality (Abstracts M150–M172)...Page 65
Graduate Student Poster Competition: National ADSA Dairy Foods Poster (Abstracts M173–M190)...Page 73
Graduate Student Poster Competition: National ADSA Production MS Poster (Abstracts M191–M195)...Page 79
Graduate Student Poster Competition: National ADSA Production PhD Poster (Abstracts M196–M203)...Page 81
Nonruminant Nutrition: Amino Acids (Abstracts M204–M237)...Page 84
Nonruminant Nutrition: Feed Ingredients (Abstracts M238–M276)...Page 94
Physiology and Endocrinology: Nutritional Effects on Reproduction and Development (Abstracts M277–M283)...Page 106
Physiology and Endocrinology: Pregnancy (Abstracts M284–M286)...Page 109
Physiology and Endocrinology: Reproductive Endocrinology (Abstracts M287–M298)...Page 111
Physiology and Endocrinology: Reproductive Management (Abstracts M299–M303)...Page 115
Production, Management and the Environment: Microbiology (Abstracts M304–M307)...Page 117
Production, Management and the Environment: Poultry (Abstracts M308–M324)...Page 119
Production, Management and the Environment: Small Ruminant (Abstracts M325–M331)...Page 124
Production, Management and the Environment: Swine (Abstracts M332–M338)...Page 127
Ruminant Nutrition: Beef: Additives and Supplements (Abstracts M339–M375)...Page 130
Ruminant Nutrition: Dairy: Forages, Fiber, Grazing (Abstracts M376–M430)...Page 142
Ruminant Nutrition: Methods, Models, Etc. (Abstracts M431–M452)...Page 160
Small Ruminant: Sheep Production 1 (Abstracts M453–M474)...Page 167

Monday, July 12, 2010
Symposia and Oral Presentations