

## **Effect of supplementing forage-based diets for late-gestation wintering beef cows with dried distillers grains plus solubles or rolled barley grain on methane emissions**

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To complement a drylot trial evaluating the effects of supplementing forage-based diets for late-gestation wintering beef cows, replicated Latin square evaluations of digestibility and methane emissions were carried out over two winters. Each evaluation used nine late-gestation beef cows ( $688 \pm 30$  kg BW year 1;  $712 \pm 30$  kg BW year 2) in individual outdoor pens in three 21-d evaluation periods. Treatments were an un-supplemented control diet (CONT; 60% alfalfa brome hay:40% barley silage year 1; 60% oat straw:40% barley silage year 2), a dried distillers grains plus solubles supplemented diet (DDGS; 80% control diet:20% dried distillers grains plus solubles), and a rolled barely grain supplemented diet (RBAR; 80% control diet:20% rolled barley grain). Diet dry matter intakes were estimated over 4 (year 1) or 5 (year 2) d during the last week of each period. Methane and carbon dioxide emissions were estimated via the SF<sub>6</sub> marker and PVC yoke sampling method over 3 d during the last week of each period. Temperatures during the collection periods were -19, -19, and -22°C in year 1 and -21, -21, and -13°C in year 2. No effects of treatments on methane ( $P=0.87$ ) or carbon dioxide ( $P=0.40$ ) emissions estimates were detected. The RBAR and DDGS treatments had greater ( $P<0.05$ ) DM intake than the CONT diet. Similar methane emissions with greater DMI, and improved feed efficiency (drylot trial) suggest supplementing late-gestation wintering beef cows diet with rolled barley grain or DDGS can reduce the methane emissions per unit of production.