**T193 Evaluation of in vitro procedures to measure digestibility of fiber in distillers dried grains with solubles.** P. E. Urriola* and H. H. Stein, *University of Illinois*, *Urbana*.

Four experiments were conducted to develop and evaluate an assay for measuring in vitro digestibility of dietary fiber in distillers dried grains with solubles (DDGS). Exp. 1 was conducted to validate the 3-step in vitro digestibility assay (pepsin, pancreatin, viscozyme) in our laboratory. In vitro apparent ileal digestibility (AID) and in vitro apparent total tract (ATTD) digestibility of OM in 4 diets and corn (83.7 and 93.1%) were not different from values analyzed at a reference laboratory (82.4 and 92.4%) indicating that we were able to repeat the assay. Exp. 2 was conducted with the objective of increasing the amount of sample that was used for the in vitro digestibility assay from 0.5 g to 2.0 or 4.0 g. Results of this experiment showed that ATTD of DM was not different among the 3 sample sizes (85.1, 83.7, 83.3% for 0.5, 2.0, and 4.0 g, respectively). Exp. 3 was conducted to measure AID and ATTD of NDF

in DDGS. In vitro AID of NDF was different ($P < 0.01$) among sources of DDGS (21.9 to 40.4%). Values for AID of NDF were greater than expected considering that at this point there were no fiber degrading enzymes added to the samples. The ATTD of NDF (32.5 to 52.2%) was different ($P < 0.01$) among sources of DDGS. These observations suggested that the average concentration of NDF in DDGS (40.2%) in the current experiment may be overestimated. The objective of Exp. 4 was to measure in vitro hindgut fermentation of NDF using purified enzymes or fecal inoculums in 10 sources of DDGS that had in vivo data available. Values for hindgut disappearance of DM and NDF obtained after fecal inoculation (23.0 and 54.3%) were greater ($P < 0.05$) than values obtained using purified enzymes (6.3 and 5.6%), values obtained using fecal inoculums were also closer to values observed in vivo (23.3%). In conclusion, modifications to the 3 step in vitro digestibility assay allowed measuring the in vitro AID and ATTD of DM and NDF in DDGS. Results obtained with the fecal inoculum are closer to in vivo values than values obtained using purified enzymes. Concentration of NDF in DDGS may be overestimated if CP contaminates the NDF residue.

**Key Words:** in vitro digestibility, DDGS, inoculum