P218 Use of soybean protein in milk replacers for calves. A.G.Silva*, J.T. Huber, and R.M. DeGregorio, Michigan State University, East Lansing.

Twenty-four male Holstein calves (8/treatment) were fed milk replacers (14% solids) containing 19% crude protein from a) 100% milk protein (MP); b) 66% modified soy protein + 34% MP (MS); c) 66% heated soy flour + 34% MP (SF) as the only nutrients at 8, 9, 10, 11, 12, 12 and 12% body weight from 1 to 7 wk. Results were as follows:

Ration	ADG (g/day)	ADG (% initial wt)	Feed/Gain (kg)	Dig. of OM (%) 2 wk	Dig. of OM (%) 5 wk
MP(100% of CP)	327^{a}	36.6^{a}	2.00^{a}	83.4	90.7^{a}
MS(66% of CP)	241^{ab}	27.8^{ab}	2.47^{ab}	74.1	87.2^{b}
SF(66% of CP)	203^{b}	24.0^{b}	2.94^{b}	78.4	85.3^{b}

^{ab}Means with different superscripts are different ($P<.05$).

No differences in scours score or daily rectal temperature were noted. On the last day of the trial, two animals per treatment were sacrificed and the small intestine was divided into three equal sections. From each section two 2.5x2.5 cm tissue samples were taken for scanning electron microscopy. Subjective evaluation of these scans showed wide morphological variation in size and shape of villi. Greater differences were observed within animals than between treatments. (Partially supported by Land O'Lakes, Inc., Webster, IA).

KEY WORDS: Soybean protein, Milk replacer, Calves