

## **Expeller soybean meal and corn by-products versus solvent soybean meal for lactating dairy cows fed alfalfa silage as sole forage**

SoyPLUS®, corn by-products and solvent meal were evaluated as protein supplements for lactating dairy cows in this study consisting of three trials. In trial 1, 20 cows were assigned to one of four treatments: (1) control, no supplemental protein, (2) 19.1% crude protein ration with solvent meal as the sole supplemental protein, (3) 19.1% crude protein ration with SoyPLUS as the sole supplemental protein, (4) 19.5% crude protein ration with solventmeal as the sole supplemental protein.

In trial 1, cows fed SoyPLUS produced more milk than cows fed either amount of solvent meal. In addition, cows fed SoyPLUS had a higher gross efficiency than all other cows (with gross efficiency measured as pounds of milk production per pounds of dry matter intake). Twenty cows were also utilized in trial 2, where the treatments were: (1) control, no supplemental protein, (2) 17.9% crude protein ration with solvent meal as the sole supplemental protein, (3) 17.6% crude protein with SoyPLUS as the sole supplemental protein, (4) 18.8% crude protein with solvent meal as the sole supplemental protein.

Again, milk production of cows on SoyPLUS was greatest when compared to production of cows on all other treatments. In trial 3, 20 cows were allotted to one of four treatments: (1) control, no supplemental protein, (2) 18.1% crude protein ration with the sole supplemental protein being a 50:50 blend of distillers dried grains with solubles and corn gluten meal, (3) 18.1% crude protein ration with SoyPLUS as the sole supplemental protein, (4) 18.9% crude protein ration with solvent meal as the sole supplemental protein.

In this trial, protein supplementation significantly increased milk production, but milk production was not different among protein treatments.

However, gross efficiency was highest for cows fed SoyPLUS.

*Broderick, G. A., D. B. Ricker and L. S. Driver. 1990. Expeller soybean meal and corn by-products versus solvent soybean meal for lactating dairy cows fed alfalfa silage as sole forage. J. Dairy Sci. 73: 453-462. U.S. Dairy Forage Research Center, U.S.D.A. Agricultural Research Service, University of Wisconsin, Madison, WI 53706.*