



## **Starter Research Plant protein sources**

### **Summary**

Calves fed starter feeds containing soybean meal consumed more starter and had greater ADG than calves fed starter feeds with either roasted soybeans or linseed meal.

### **Previous Research with Protein Sources in Calves**

Soybean meal is the preferred source of supplemental protein in calf feeds. From peer-reviewed research, calves fed starters with soybean meal have had as great or greater ADG as calves fed starters with other sources of protein. There are at least three reasons why this is so.

- 1) The digestibility of soybean is high and higher than most other sources of protein.
- 2) The amino acid profile of a diet based on corn with soybean meal is good.
- 3) The calf less younger 3 months of age has limited rumen function and the rumen degradability of protein is less than in older heifers and mature cows. Thus, the rumen undegraded protein fraction of a protein does not provide an advantage in calves.

### **Trial at Akey**

Calves (3 to 5 days of age initially) were fed starters made with roasted soybean, linseed meal, or soybean meal in a 56-day trial. Starter intake and ADG was greater in calves fed starters with soybean meal than in calves fed starters with roasted soybean meal or linseed meal (see tables below).

<b>Starter formulas</b>				<b>Plant Proteins for Starters (0-56 days)</b>		
Ingredient, % as-fed	Roasted soybeans	Linseed meal	Soybean meal	Protein source	ADG, lb/day	Starter intake, lb/day
Corn	38.0	38.0	38.0	Roasted soybeans	1.193	2.030
Oats	20.0	20.0	20.0	Linseed meal	1.160	2.050
Molasses	2.0	2.0	2.0	Soybean meal <sup>a</sup>	1.260	2.304
Roasted soybeans <sup>a</sup>	14.5	0	0	<small><sup>a</sup> ADG and intake greater for soybean meal than others (P &lt; 0.05)</small>		
Linseed meal <sup>a</sup>	0	16.7	0			
Soybean meal <sup>a</sup>	13.5	13.5	24.5			
Corn <sup>a</sup>	0.5	2.3	5.8			
Wheat midds <sup>a</sup>	5.0	5.0	5.0			
Other ingredients <sup>a</sup>	6.5	2.0	4.7			

<sup>a</sup> Combined in a pellet