



## Milk Replacer Research Performance, Economic Benefits, and Flexibility of *Valu-Flex* Milk Replacer

This report introduces Akey Valu-Flex Milk Replacer (MR), a new performance oriented, lower priced MR that has the flexibility of multiple feeding rates with economical returns at both rates. Our research plus other published research (see references at end), show that feeding more of a 20 to 22% milk protein, 20% fat MR will not result in improved gains by calves because of a substitution or depression in starter intake with increased MR offered. One approach to this dilemma is to lower the fat level in the MR. However, many nutritionists do not accept MR with fat levels less than 20%. They (many nutritionists) suggest that the fat level should be increased above 20% in the winter, not lowered, and the rate fed should also be increased. We are presenting research showing the effects of altering the nutrient profiles and the feeding rate of the MR in both winter and summer.

### **We can lower protein and fat and maintain performance**

A trial conducted in the winter (Table 1) shows that reducing the fat to 15% or reducing protein to 18% and fat to 15% will not sacrifice performance relative to Akey White Gold MR (20% protein, 20% fat).

**Table 1. Performance of calves fed 3 different milk replacers**  
(48 calves; 0-6 weeks of age; Winter; Average night time temperature of 19°F)

Milk Replacer	MR Fed Daily, lb	Daily Gain, lb	Daily Starter Intake, lb	Total Medical Treatments Per Calf	Change in Body Condition Score	Change in Hip Width, in
<i>Akey White Gold</i> <sup>1</sup>	1.0	1.25	1.41	5.50	.64	1.18
<i>Akey Valu-Flex</i> <sup>2</sup>	1.0	1.23	1.38	4.87	.58	1.21
<i>Experimental</i> <sup>3</sup>	1.0	1.29	1.31	5.50	.51	1.11

<sup>1</sup>20% milk protein, 20% Akey modified fat/energy blend; <sup>2</sup>18% milk protein, 15% Akey modified fat/energy blend;

<sup>3</sup>20% milk protein, 15% Akey modified fat/energy blend.

### **Increased feeding rates are possible with Akey Valu-Flex MR**

Two trials conducted in the winter are combined in Table 2 and show that increasing the feeding rate of Valu-Flex MR to 1.2 lb will increase daily gain. However, increasing the feeding rate of White Gold did not increase gain because of a decline in starter intake. Also, note that the performance of calves fed both the generic MR were less than either calves fed White Gold or Valu-Flex MR.

**Table 2. Performance of calves fed 4 different milk replacers at 2 rates**  
(96 calves; 0-6 weeks of age; Winter; Night time temperatures of 19 to 25° F)

Milk Replacer	MR Fed Daily, lb	Daily Gain, lb	Daily Starter Intake, lb	Total Medical Treatments Per Calf	Change in Body Condition Score	Change in Hip Width, in
<i>Akey White Gold</i> <sup>1</sup>	1.0	1.25	1.39	5.40	.48	1.15
<i>Akey White Gold</i> <sup>1</sup>	1.2	1.22	1.11	5.86	.60	1.13
<i>Akey Valu-Flex</i> <sup>2</sup>	1.0	1.25	1.33	5.50	.43	1.05
<i>Akey Valu-Flex</i> <sup>2</sup>	1.2	1.37	1.32	6.33	.65	1.25
Generic 20-20 <sup>3</sup>	1.0	1.11	1.15	4.78	.42	1.09
Generic 20-15 <sup>3</sup>	1.0	1.06	1.29	6.75	.47	1.04

<sup>1</sup>20% milk protein, 20% Akey modified fat/energy blend; <sup>2</sup>18% milk protein, 15% Akey modified fat/energy blend;

<sup>3</sup>20% milk protein, 15% fat from edible lard.

### Lowering the fat is not the key to the success of Valu-Flex MR

When calves were fed either 1.0 or 1.2 lb daily of either Valu-Flex MR or a Generic 18-15 MR, performance was dramatically better for calves fed Valu-Flex MR (Table 3). This data further confirms the significant value that fatty acids and amino acids contribute to young calf nutrition.

**Table 3. Performance of calves fed 3 different milk replacers at 2 rates**  
(48 calves; 0-6 weeks of age; Summer; Average night time temperature of 65° F)

Milk Replacer	MR Fed Daily, lb	Daily Gain, lb	Daily Starter Intake, lb	Total Medical Treatments Per Calf	Change in Body Condition Score	Change in Hip Width, in
<i>Akey White Gold</i> <sup>1</sup>	1.0	.90	.84	6.50	.54	.81
<i>Akey Valu-Flex</i> <sup>2</sup>	1.0	.89	.84	6.45	.20	.79
<i>Akey Valu-Flex</i> <sup>2</sup>	1.2	1.02	.75	6.83	.42	1.10
Generic 18-15 <sup>3</sup>	1.0	.77	.74	7.09	.23	.81
Generic 18-15 <sup>3</sup>	1.2	.84	.57	7.25	.35	.94

<sup>1</sup>20% milk protein, 20% Akey modified fat/energy blend; <sup>2</sup>18% milk protein, 15% Akey modified fat/energy blend;

<sup>3</sup>18% milk protein, 15% fat from edible lard.

### The Value and Flexibility in Valu-Flex MR

Valu-Flex MR offers a savings in price while maintaining performance. It also allows the flexibility to feed at an increased rate of 1.2 lb daily which yields another \$5 to \$10 of value per calf.

References:

J. Dairy Sci. 83 (Suppl. 1): 20 (Abstr.); J. Dairy Sci. 83 (Suppl. 1): 235 (Abstr.); J. Dairy Sci. 84 (Suppl. 1): 265 (Abstr.).