

## Early weaning saves you time and money

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Early weaning of calves is not a new concept. There are a dozen or so peer reviewed research publications that show its success dating back to about 1970. Recent research from Penn State University has reported successful early weaning as soon as 3 weeks of age when a 22% CP milk replacer powder was fed at 1.25% of body weight or just over 1 lb of powder daily. The advantages of this early weaning system are a large reduction in labor associated with feeding a liquid diet to calves and the large reduction of feed costs. The most recent US survey from 2002 listed the average weaning age of calves to be 8.4 weeks of age similar to calf ages in many other countries. So there are plenty of farms who can implement this concept.

So when many controlled research trials show that early weaning is successful, why do so many producers around the world not implement it? We think there are at least five reasons (doubt, excess waste milk, the accelerated calf growth concept, tradition, poor calf management). Doubt is the producer thinking that the 30 to 100 calves used in a research trial is too small a number to convince them that the system will really work on their farm. Excess waste milk is a milk quality issue on the dairy that leads to a lot of waste milk that can be fed to calves and appears as 'free feed'. The accelerated calf growth concept suggests feeding calves more, not less milk replacer. Tradition is the notion that this is the way that is always has been done on a farm, so why change. Poor calf management is related to one producer experiencing a lot of health and management challenges in calves and doubt that a system where less milk or milk replacer is fed will actually work for them.

### Doubt

Yes many trials use only a few calves. However, if this research has been published in a peer reviewed journal (where the research is reviewed by expert researchers in the field of calf nutrition and management), then it should have been controlled research. With controlled research, typically a few calves, should be adequate to measure differences in performance. We (Akey) have published early weaning research in a peer reviewed journal, as well. It supported the early weaning concept. We also have collected data from 3,300 calves fed at conventional and moderately accelerated milk replacer program and weaned at either 4 or 6 weeks of age. Over 94% of the calves in a conventional system were weaned on time with a 4 week weaning program (Table 1). Over 99% of the calves in a moderately accelerated milk replacer program were weaned successfully with a 4 week weaning program (Table 1). There is no doubt that early weaning programs have a high probability of working.

### Excess waste milk

If a farm has so much excess waste milk that they can feed 1 to 2 gallons per calf daily (equal to 1 to 2 lb of milk replacer powder) for 6 or more weeks, then they have a very pressing milk quality problem on the dairy. The economics of this make the partial budget of the calf enterprise look good, despite the biosecurity risk, while the economics of the lactating cow enterprise does not look so good.

### The accelerated calf growth concept

This concept, reintroduced in the late 1990's by Cornell University, strongly suggests that calves need more protein and energy than provided by 1 gallon of milk or 1 lb of milk replacer powder daily. It is a correct concept. However, this program can be managed as a moderate accelerated program feeding 1.5 lb of a 26% protein, 17% fat milk replacer powder per calf daily and be more economical and provide similar sized calves at 8 to 12 weeks of age as programs feeding 2 to 3 lb of powder daily. This moderate amount of a high protein powder allows the calves to consume starter, develop a rumen, and wean normally without slumps in growth at and after weaning time. As previously mentioned, over 99% of the calves were successfully weaned at 4 weeks of age in this program (Table 1). Note in Table 2 that calves in this program consume starter and grow faster than calves fed a convention program. Also note in Table 2 that calves weaned early in the program grow about as fast as calves weaned later.

## Tradition

'We have always done it this way' is not an acceptable approach to management. If one is accustomed to weaning calves at 8 weeks, then they can begin by weaning calves at 7 weeks. Once a successful 7 week weaning is established, a 6 week weaning can be implemented. The weeks to weaning can be gradually reduced and new comfort zones established.

## Poor calf management

If poor calf management is limiting the calf program and limits the ability to wean early, then again, this is not an acceptable management approach. Overcome the poor management. If standard, written calf management procedures do not exist, create them. Consultants, companies, and universities can provide examples of written management procedures that farms can adapt to their situation. Find an experienced calf professional, not familiar with your farm, to carefully observe your calf management and offer suggestions for improvement. These procedures and their implementation will help calf management to improve.

## Success with early weaning

Ken Leu and Judy Steinke in Waupan, WI wean approximately 2,000 calves annually as a custom calf raiser for a dairy about 3 hours from their operation. Approximately half the calves arrive with serum protein concentrations less than 5.5 mg per dL (marginal to low in serum protein). Yet, for 8 years now, they have been successfully weaning calves from a 26% CP, 17% fat MR that has been fed at 1.5 lb daily. Their bull calves wean at about 28 days and their heifers wean at about 35 days. At 14 weeks when the calves leave their facility, the bull calves have gained 2.8 lb of body weight per day and the heifers have gained 2.3 lb of body weight per day.

Early weaning programs are successful in weaning a very high percentage of calves. Moderately accelerated program calves can be successfully weaned and do not sacrifice the added growth that these programs yield versus conventional programs. Early weaning programs reduce both feed and labor costs and do not add risk to the calf program. Why not give it a try on a few calves?

Table 1. A high percentage of calves* can be weaned at 4 weeks of age				
	<u>20% CP, 20% fat milk replacer</u>		<u>26% CP, 17% fat milk replacer</u>	
Feeding rate	1 lb/day	1 lb/day	1.5 lb/day	1.5 lb/day
Weaning age	4 weeks	6 weeks	4 weeks	6 weeks
Calves	906	1,042	590	770
% weaned	94%**	99%	99%	99%
* 3,308 total calves				
** 93% of 610 multiple source calves weaned on time				
** 97% of 296 single source calves weaned on time				

Table 2. Performance of calves from 0 to 8 weeks of age when fed different milk replacer programs					
	<u>20% CP, 20% fat milk replacer</u>			<u>26% CP, 17% fat milk replacer</u>	
Feeding rate	1 lb/day	1 lb/day	1 lb/day	1.5 lb/day	1.5 lb/day
Weaning age	4 weeks	6 weeks	8 weeks	4 weeks	6 weeks
Performance of calves from 0 to 8 weeks of age					
Starter intake, lb/day	1.93	1.55	1.31	2.06	1.59
Body weight gain, lb/day	1.01	1.01	1.02	1.35	1.41
Efficiency, lb gain/lb feed	0.42	0.44	0.44	0.48	0.52