



## Pork Prose

by  
Kenneth B. Kephart

Penn State Extension Swine Specialist

### MILK REPLACERS

Milk replacers keep getting better. Today, you can actually feed a milk replacer and not expect the entire litter to die of diarrhea.

Let's look at the progress in the milk replacer business, proper feeding strategy, and potential for product improvement.

#### Milk replacer composition

Protein in the replacer normally runs 22-30 percent and should be milk-based. Plant proteins (such as soy proteins) cause an inflammatory response in the gut wall of the pig. The younger the pig, the worse the response. There should be few, if any, plant products listed on the tag.

The fat content of sow's milk is about 30 percent on a dry matter basis. That's a little difficult to manage in a milk replacer — but a minimum of 10 percent fat is apparently vital to good performance. It's not clear whether animal fat is superior to vegetable oil.

Lactose, or milk sugar, should be the main carbohydrate in a milk replacer since pigs can digest it easily. Look for whey on the tag. That's a good source of lactose.

Organic acids are starting to appear in some milk replacers. These replacers are easy to identify since "acid" or "acidified" will appear in the literature somewhere.

Lowering the pH of the milk replacer makes good sense. The product won't spoil as quickly once reconstituted (three to four days shelf-life vs. one day for non-acidified products). There may be less bacterial growth in the gut if the pig ingests a product that has a pH of 4 or 5. And there is some evidence that the organic acids aid in digestion.

Most milk replacers contain an antibiotic, usually neomycin, to curb scours. This is probably essential, but it's unfortunate, since neomycin kills many of the beneficial bacterial as well as the pathogens.

"Littermilk," a milk replacer manufactured by Land O'Lakes, also contains another "factor" to prevent scours. It does seem to work against one serotype of E.coli, the K-99.

One area of research that shows promise is that of supplementing milk replacers with immunoglobulins (Igs). You'll recall that Igs are the special proteins in milk, especially colostrum, that protect newborns from disease.

Taking Igs from either the cow or the sow and adding them to sow milk replacer improves survival rates in baby pigs, reduces the incidence of diarrhea, and increases growth rates. Interestingly, the Igs are obtained and purified from blood at slaughter.

#### Milk replacer to replace sow's milk

Think of this as a last resort. Only when all possibilities for cross fostering are exhausted should you consider artificial rearing.

First, sow's milk is a lot cheaper. A healthy sow consumes about 12 pounds of feed and returns about two gallons of milk each day. At \$160/ton for feed, excluding buildings and overhead, that comes to about \$0.48 per gallon of sows milk.

I recently priced four milk replacers available in this state — Carl Akey's "Litter Life," Land O'Lakes "Littermilk," Purina's "Baby Pig Milk Replacer," and Cadco's "Littermelk." The costs ranged from about \$1 to nearly \$2 per reconstituted gallon. So the artificial stuff costs at least double the real thing.

Obviously real sow's milk is the standard of comparison for performance. And that says nothing of the immune protection that the sow provides to the baby pigs through the milk.

But when sow's milk is in short supply, milk replacer (expensive as it is) can save both pigs and money. Some tips on keeping costs down and survival up are 1) Keep the pigs clean, warm and dry. That's easier said than done. Feeding milk replacer and keeping the pigs dry do not run hand-in-hand. Consider using one of the commercial feeders (Kane has a good one) or some device that keeps the pigs out of the milk. Open pans are the worst. But no matter what, keep the milk replacer clean and fresh. 2) Most pigs learn to drink by accident or have to be taught. Be prepared to spend some time with the orphaned pigs until they learn the ropes of their new environment. When in doubt, keep the pigs on the hungry side — especially during the first few days. As long as they're eating *something*, they'll usually survive. It's when they overconsume that the diarrhea can get ahead of you. In any case, plan on looser-than-normal stools. 4) Keep pigs on the milk replacer until another sow becomes available or until they start eating solid feed, whichever comes first. Again, milk replacer is expensive. Use it only when you have to. 5) Remember that the biggest pig in the litter has the best chance of surviving the transition from sow to milk replacer. If you're going to artificially rear only part of the litter, you'll be better off leaving the smallest pigs on the sow.

(Turn to Page E25)



GETTYSBURG (Adams Co.) — The 1991 class of Penn State master gardeners are seated, left to right, Carol Rohrbaugh, Spring Grove; and Barbara Davidowitz, Gettysburg. Standing, left to right, Thomas Rooney, Fairfield; Robert Todd, East Berlin; Joseph Breighner, New Oxford; and Fred Hopper, York Springs. Nearing the completion of an intensive training course, these master gardeners have each agreed to provide 50 hours of volunteer service in support of Penn State Extension programs in horticulture. The program is administered locally by Adams County Extension Director Thomas E. Piper, who invites inquiries from anyone wishing to learn more about the program.

## GOOD DEALS

from Good Dealers

# In no-till fields, nobody drills it home better than John Deere

The John Deere 750 Drill is your true no-till drill. It adapts to handle no-till conditions with up to 450 pounds of down pressure for each disk opener. You can cut through tough sod and residue, and still get excellent seeding accuracy. And each disk opener has a depth gauge wheel for outstanding control of seed placement, even in dips and rolling fields. So just imagine how well it drills in less-demanding fields. See us today.



#### Your Full-Service John Deere Dealers

**ADAMSTOWN  
EQUIPMENT INC.**  
Mohnton, PA  
(near Adamstown)  
215-484-4391

**BARTON  
SUPPLY, INC.**  
Tunkhannock, PA  
717-836-4011

**CARLYLE &  
MARTIN, INC.**  
Hagerstown, MD  
301-733-1873

**CLUGSTON FARM  
EQUIPMENT**  
Needmore, PA  
717-573-2216

**CLUGSTON AG  
& TURF, INC.**  
Chambersburg, PA  
717-263-4103

**DEERFIELD AG &  
TURF CENTER, INC.**  
Watsontown, PA  
717-838-3557

**ENFIELD  
EQUIPMENT INC.**  
Whiteford, MD  
301-452-5252

**EVERGREEN  
TRACTOR CO., INC.**  
Lebanon, PA  
717-272-4841

**FOSTER EQUIPMENT  
SALES**  
Elmer, NJ  
609-769-1535

**FINCH SERVICES-  
HANOVER INC.**  
Hanover, PA  
717-632-2345

**A.B.C. GROFF, INC.**  
New Holland, PA  
717-354-4191

**ROBERT G.  
HAMPTON, INC.**  
Shiloh, NJ  
609-451-9520

**I.G. SALES**  
Silverdale, PA  
215-257-5136

**KERMT K.  
KISTLER INC.**  
Lynnport, PA  
215-298-2011

**LANDIS BROS. INC.**  
Lancaster, PA  
717-291-1046

**LEHIGH AG  
EQUIPMENT**  
Weacooville, PA  
215-398-2553

LEADERSHIP AT WORK