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Skim milk: is a valuable pig feed, but it should be balanced by other foods

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SKIM MILK

... is a valuable pig feed

By P. McNAMARA, Pig Husbandry Adviser and R. SPRIVULIS, Agricultural Adviser, Denmark

SKIM milk is a source of high quality protein, and as such is a valuable feed for young pigs.

When fed at the rate of ½ gallon per day it will provide the protein requirement of pigs at all ages to slaughter. When fed in excess of this quantity, each gallon fed will replace the equivalent of 1½ lb. of barley meal.

**Skim milk as a food**

As a food for pigs, skim milk provides:

- Protein of high quality.
- Carbohydrate—mostly sugars, easily digested.
- B group vitamins.

**BUT**

- It is bulky (90 per cent. water).
- It lacks vitamins A and D.
- It is deficient in minerals.

Pigs will live and grow on skim milk alone, but it is not a balanced food. You will not get the best out of the milk or the pigs if the diet is not balanced by other foods.

**Sour or Fresh?**

Skim milk should always be fed in the same state; to feed it sweet one day and sour the next will lead to trouble. One way of ensuring freshness is to preserve it with formalin.

To do this, add 1 pint of 40 per cent. formaldehyde solution to each 125 gallons of skim milk. This will preserve the milk up to one week.

**Weaners**

Before weaning, piglets should have started to eat creep feed. If they are to be fed on skim milk, introduce them to this as well.

Continue to feed similar meal ration as creep when weaning takes place and build the milk up to 3 pints per pig each day. Now change the meal to a low protein meal, but not to cereal meal only, as not sufficient skim is being consumed as yet. Once pigs can drink ½ to ¾ gallon each day, then the change can be made to cereal + vitamins and mineral diet.

**LOW PROTEIN DIET:**

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meat meal (55 per cent.)</td>
<td>7%</td>
</tr>
<tr>
<td>Wheat and barley</td>
<td>91%</td>
</tr>
<tr>
<td>Minerals</td>
<td>2%</td>
</tr>
<tr>
<td>Vitamins</td>
<td>as directed</td>
</tr>
</tbody>
</table>

**MINERAL MIXTURE:** 3 parts limestone, 1 part salt.

**VITAMINS:**

600 IU Vit A and 50 IU Vit D per lb. of feed.

**Growers**

Once the pigs can drink ¾ gallon of skim milk per day, remove the meat meal from
but it should be balanced by other foods

the ration as they will now be able to obtain sufficient protein from the skim milk. Gradually increase the meal ration until a rate of 2 lb. per day is reached.

If there is a large surplus of skim milk you can now increase the amount fed, up to a maximum of 3 gallons per pig, but if this is done the excess over \( \frac{3}{4} \) gallon is being used to replace cereal meal only.

Ideally there should be sufficient pigs so that each will get from \( \frac{3}{4} \) to \( 1\frac{1}{4} \) gallons each, the remainder of their requirement being met with cereal meal.

A rule of thumb method to judge amount of meal required is to increase the daily ration by \( \frac{1}{4} \) lb. per pig, each week.

Perhaps at 150 lb. liveweight pigs will be feeding as follows:

- \( \frac{3}{4} \) gallon skim milk
- 5\( \frac{1}{4} \) lb. meal
- or
- 1\( \frac{1}{4} \) gallons skim milk
- 4\( \frac{1}{4} \) lb. meal

In all cases the meal must be supplemented with minerals and vitamins.

**Sows**

Mature animals are able to consume large quantities of bulky feed, and make better use of it than young stock.

Sows can drink 1\( \frac{1}{4} \) to 2 gallons of skim milk during pregnancy, plus a cereal ration depending upon the quality of grazing and stage of pregnancy.

Towards the end of pregnancy a sow may require the equivalent of 6 lb. per day of balanced meal, supplied by 2 gallons of skim milk and 3\( \frac{1}{2} \) lb. of cereal (plus minerals and Vit A and D).

Suckling sows can drink even larger amounts, but this will depend upon supply available.

For example, a sow with eight piglets will eat about 12 lb. per day.

This could be provided by 4 gallons of skim milk and 8 lb. of cereal meal.

**THREE SYSTEMS COMPARED**

Here is an example of the value of skim milk fed at different levels.

Let us consider the utilisation of milk on a butterfat-producing dairy farm with an average production of 560 gallons of milk per cow, with a 4.5 per cent. butterfat content (equivalent to 250 lb. B.F. per cow).

- Wholemilk produced per cow—560 gal.
- Wholemilk fed to calf per cow—25 gal.
- Wholemilk skimmed per cow—535 gal.
- 40 per cent. B. F. cream sold per cow—60 gal.
- Skim milk left on farm per cow—475 gal.
- Skim milk fed to calf per cow—110 gal.
- Skim milk remaining for pigs per cow—365 gal.
Assuming there are enough weaners at the right time to utilise all the surplus skim milk, the potential number of baconers (200 lb. live wt.) which could be fed by three different methods is:

<table>
<thead>
<tr>
<th>Method A</th>
<th>Method B</th>
<th>Method C</th>
</tr>
</thead>
<tbody>
<tr>
<td>500 gallons skim milk + grass</td>
<td>300 gallons skim milk + 1½ cwt. grain + grass</td>
<td>150 gallons skim milk + 3 cwt. grain + grass</td>
</tr>
<tr>
<td>Potential baconers per cow ...</td>
<td>365</td>
<td>365</td>
</tr>
<tr>
<td>500</td>
<td>300</td>
<td>150</td>
</tr>
<tr>
<td>= 0.7</td>
<td>= 1.2</td>
<td>= 2.4</td>
</tr>
</tbody>
</table>

Again let us assume that we purchase healthy weaner pigs at $12 per head and sell them as 200 lb. baconers at $36 per head (144 lb. dressed wt. at 25c per lb.), and we feed grain which can be purchased at $2.20c per cwt. The results would be—

### COSTS

<table>
<thead>
<tr>
<th>Feeding Method</th>
<th>Weaner Price</th>
<th>Cost Grain</th>
<th>Labour</th>
<th>Housing and Marketing</th>
<th>Total Cost per Baconer</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>12</td>
<td>$3.85</td>
<td>$2.50</td>
<td>$16.50</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>12</td>
<td>3.85</td>
<td>2</td>
<td>2.50</td>
<td>20.35</td>
</tr>
<tr>
<td>C</td>
<td>12</td>
<td>6.60</td>
<td>2</td>
<td>2.50</td>
<td>23.10</td>
</tr>
</tbody>
</table>

### RETURNS

<table>
<thead>
<tr>
<th>Feeding Method</th>
<th>Gross Return per Pig</th>
<th>Net Return per Pig</th>
<th>No. of Pigs per Cow</th>
<th>Net Return per Cow from Pigs</th>
<th>Skim Milk Fed</th>
<th>Net Return per Gallon of Skim Milk</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>36</td>
<td>19.50</td>
<td>0.7</td>
<td>13.65</td>
<td>365</td>
<td>3.7 cents</td>
</tr>
<tr>
<td>B</td>
<td>36</td>
<td>15.60</td>
<td>1.2</td>
<td>18.72</td>
<td>365</td>
<td>5.0 cents</td>
</tr>
<tr>
<td>C</td>
<td>36</td>
<td>12.90</td>
<td>2.4</td>
<td>30.96</td>
<td>365</td>
<td>8.5 cents</td>
</tr>
</tbody>
</table>

There are too many butterfat producing farms selling no more than one baconer per two cows, while skim milk fed to calves is most wasteful. Healthy calves can be weaned on to grass when they are 12 weeks old, and they utilise an ample supply of grass better than pigs can.

In this article sufficient milk has been allowed for every calf to be kept to the age of 12 weeks. The potential net return from pigs on a 40-cow butterfat farm with complete utilisation of skim milk by the three feeding methods outlined would compare as follows:

- **Method A**: $546
- **Method B**: $748
- **Method C**: $1,238

Some farms produce considerably more milk per cow and would be able to carry an even higher number of pigs than shown in this article.

What is the net value of skimmed milk on your farm?
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