

# MAE Farm Meats

## April 30, 2014

### History & Management Practices:

#### Swine

MAE Farms Meats is a 73 acre free-range farrow-to-finish swine farm in its 10<sup>th</sup> year of operation in Louisburg, NC. Genetic lines include Chester White, Duroc, Hampshire, and Berkshire breeds, most crossbred on site. Breeding of sows selected from MAE farm's own stock based on temperament, health, and production takes place via natural cover service by boar studs (some selected from on farm stock and others brought in based upon genetic need). This takes place in pen with one boar and multiple sows. On that same pasture, sows are kept during gestation and only divided into individual farrowing huts just before farrowing. Piglets are kept with mothers in these huts for up to 2-weeks (with straw bedding being topped off as needed). After this period huts are removed and all sows and piglets are allowed to roam the breeding/farrowing pasture freely for up to 8-10 weeks when piglets are weaned and will begin to move through finishing pig pastures. Processing of piglets during this time consists only of castration at 10 days. No vaccines are administered, and sows are not washed prior to farrowing, as it has seemed to disrupt piglet GI microbial balance in the past. Sampling of the farrowing pasture for this study consisted of unidentified but objectively fresh piles at a ratio of approximately 1 sample per sow and 1 sample per every 4 piglets on the pasture. Sow piles were differentiated from piglet piles on the basis of size and are labeled in the chart below as 3Sow-(sample #) and 3Piglet-(sample #) respectively.

Ideally finisher pigs are separated into 3 groups based upon age range and placed into pastures with a maximum of 40 pigs per acre. Once groups reach >250-300lbs/pig this rule of thumb used for acre density is no longer adequate, but at such point the pigs are then sent off for processing. With this current herd of pigs however, all finisher pigs are currently being kept in one of two pastures regardless of age as a large ice storm several months ago took down fence lines and forced managers to corral pigs to the closest pasture areas still supplied with power. Sampling of finisher pigs was from these two pastures using unidentified but objectively fresh piles at a ratio of approximately 1 sample per every 4 pigs on the pasture. The pasture containing 75 mixed age pigs is identified as 1-(sample #) in the chart below and the second pasture containing 38 mixed age pigs is identified as 2-(sample #).

All pastures (farrowing in addition to the normal 3 finisher pastures) are left fallow for approximately 3 week-1mo at the farm manager's discretion such that grass can regrow at which point beef cattle are rotated through before it's reuse for swine once again. Last administration of antihelmintics on MAE Farm was of Safeguard (feed-grade Fenbendazole) to entire herd last fall (approximately 8 months ago)

following condemnation of several livers upon processing due to possible “white spot.” Prior to this no antihelminthics were administered on the farm for a little over a year and a half, as the Ivomec swine feed additive they had been on was taken off the market.

**Beef Cattle**

As a sideline to MAE Farm Meats’s pig production, the farm also raises beef cattle (Beefmaster and Angus breeds), with its current population of 29 head consisting of cattle either sired naturally on the farm from a rented bull or purchased as weaned calves. Cattle are all kept together in the same pasture, except when the bull is present, and rotated from one pasture to the next as forage is depleted. Currently pastures are allowed to rest on average 2 months between cattle occupation. Sampling of cattle pasture was at a ratio of approximately 1 sample per every 4 cattle. Those samples collected from unidentified but objectively fresh piles are labeled Random-(Sample #) in the chart below, whereas those collected from identified cattle can be found listed as C-(calf #). Currently the farms protocol for managing GI parasites in their beef consists of regular bi-annual deworming of all cattle.

**Fecal Analysis:**

**Swine**

| <b>ID</b> | <b>Coccidia</b> | <b><i>Ascaris suis</i></b> | <b><i>Trichuris suum</i></b> | <b><i>Oesophagostomum spp.</i></b> | <b><i>Strongyloides</i></b> |
|-----------|-----------------|----------------------------|------------------------------|------------------------------------|-----------------------------|
| 1-1       | +               | -                          | -                            | ++                                 | -                           |
| 1-2       | +               | -                          | -                            | +                                  | -                           |
| 1-3       | ++              | -                          | -                            | +                                  | -                           |
| 1-4       | +               | ++                         | -                            | +++                                | -                           |
| 1-5       | -               | -                          | -                            | ++                                 | +                           |
| 1-6       | +               | -                          | -                            | +++                                | -                           |
| 1-7       | +               | -                          | -                            | +                                  | -                           |
| 1-8       | ++              | -                          | -                            | ++                                 | -                           |
| 1-9       | +               | -                          | -                            | ++                                 | -                           |
| 1-10      | ++              | -                          | -                            | -                                  | -                           |

| <b>ID</b> | <b>Coccidia</b> | <b><i>Ascaris suis</i></b> | <b><i>Trichuris suum</i></b> | <b><i>Oesophagostomum spp.</i></b> | <b><i>Strongyloides</i></b> |
|-----------|-----------------|----------------------------|------------------------------|------------------------------------|-----------------------------|
| 1-11      | +               | -                          | -                            | -                                  | -                           |
| 1-12      | ++              | +                          | -                            | +                                  | -                           |
| 1-13      | -               | +                          | +                            | +                                  | -                           |
| 1-14      | -               | -                          | -                            | +                                  | -                           |
| 1-15      | -               | -                          | -                            | +                                  | -                           |
| 1-16      | -               | -                          | -                            | +                                  | -                           |
| 1-17      | +               | ++                         | -                            | +                                  | -                           |
| 1-18      | +               | -                          | -                            | ++                                 | -                           |
| 1-19      | +               | -                          | -                            | ++                                 | -                           |
| 1-20      | +               | ++                         | -                            | ++                                 | -                           |
| 1-21      | -               | +                          | -                            | +                                  | -                           |
| 1-22      | +               | -                          | -                            | -                                  | -                           |
| 1-23      | -               | -                          | -                            | +                                  | -                           |
| 1-24      | +               | ++                         | -                            | ++                                 | -                           |
| 1-25      | ++              | -                          | -                            | +                                  | -                           |
| 2-1       | +               | +++                        | -                            | +                                  | -                           |
| 2-2       | -               | +                          | -                            | +                                  | -                           |
| 2-3       | -               | -                          | -                            | +                                  | -                           |
| 2-4       | +               | -                          | -                            | +                                  | -                           |
| 2-5       | -               | -                          | -                            | +                                  | -                           |
| 2-6       | -               | -                          | -                            | +                                  | -                           |
| 2-7       | +               | -                          | -                            | +++                                | -                           |
| 2-8       | +               | -                          | -                            | ++                                 | -                           |
| 2-9       | -               | -                          | -                            | -                                  | -                           |

| <b>ID</b>           | <b>Coccidia</b> | <b><i>Ascaris suis</i></b> | <b><i>Trichuris suum</i></b> | <b><i>Oesophagostomum spp.</i></b> | <b><i>Strongyloides</i></b> |
|---------------------|-----------------|----------------------------|------------------------------|------------------------------------|-----------------------------|
| 2-10                | +               | -                          | -                            | +                                  | -                           |
| 2-11                | -               | -                          | -                            | +                                  | -                           |
| 2-12                | -               | -                          | -                            | +                                  | -                           |
| 2-13<br>(Large Sow) | -               | -                          | -                            | -                                  | -                           |
| 2-14                | -               | -                          | -                            | -                                  | -                           |
| 2-15                | +               | -                          | -                            | -                                  | -                           |
| 2-16                | -               | -                          | -                            | +                                  | -                           |
| 2-17                | +               | -                          | -                            | -                                  | -                           |
| 2-18                | +               | -                          | -                            | -                                  | -                           |
| 2-19                | -               | -                          | -                            | -                                  | -                           |
| 2-20                | -               | -                          | -                            | -                                  | -                           |
| 3Piglet -1          | ++              | -                          | -                            | +                                  | -                           |
| 3Piglet -2          | +               | -                          | -                            | +                                  | +                           |
| 3Piglet -3          | +               | -                          | -                            | +                                  | ++                          |
| 3Sow -1             | -               | -                          | -                            | ++                                 | -                           |
| 3Sow -2             | -               | -                          | -                            | ++                                 | -                           |

+ = very few eggs seen,

++ = Moderate numbers of eggs seen but not at a level of concern

+++ = Many eggs seen at a level of concern (Possible pig pathology &/or significant pasture contamination)

## **Beef Cattle**

| <b>ID</b>     | <b><i>Strongyle Type Eggs (EPG)</i></b> | <b><i>Coccidia</i></b> | <b><i>Trichuris</i></b> |
|---------------|---|------------------------|-------------------------|
| C-26          | 19.5                                    | +                      | -                       |
| C-28          | 10                                      | +                      | -                       |
| Random-1      | 43                                      | +                      | +                       |
| Random-2      | 6.5                                     | -                      | -                       |
| Random-3      | 2                                       | -                      | -                       |
| Random-4      | 10                                      | -                      | -                       |
| Random-5      | 28                                      | -                      | -                       |
| Random-6      | 0                                       | -                      | -                       |
| Random (Calf) | 68                                      | -                      | -                       |

## **Recommendations:**

### **Swine**

Intestinal parasite load seems to have increased from last year especially with regard to *Oesophagostomum* and *Coccidia* numbers. This could in part be due to increased stress on finishing pigs with this winter's ice storms and subsequently being pastured multiple age groups together. But, more likely, the higher frequency of rain in the past 8 months has facilitated *Oesophagostomum* infective larva survival on pasture. *Oesophagostomum* larvae are susceptible to dessication. Nonetheless, we would recommend that no further finishers be placed on either of these pastures post-weaning, and the fields be given time to fallow for 3-4 months (timing variable based upon humidity) in order for infectious *Oesophagostomum* eggs and larvae to die out. During this time you could feel free to graze cattle on fallowing pastures as they are unsusceptible to the pig-specific worms. Current finishing pigs do not necessarily need mass deworming, but it would be a good idea to watch for poor-doers especially among the young in the pasture and consider deworming these individually.

As for current animals in the breeding/farrowing pasture (i.e. boars, sows, and piglets), you may consider group deworming both piglets and sows when piglets are moved to finishing pastures as *Oesophagostomum sp.* loads were considerable higher than in the past two years. Also, this way, post-weaning pigs will be

dewormed and will not spread further egg burdens to newly opened finishing pastures.

### **Beef**

With the low nematode egg counts in the cattle fecal samples, we believe that by continuing the current efficient pasture rotation, there is no need for anthelmintics. The one sample from a calf had considerably high strongyle-type eggs so the calves should be watched closely for symptoms of worm infection (diarrhea, dehydration, and general “poor doing”). A future reassessment of fecal worm egg counts may be recommended for these calves based on their growth and performance this spring and summer.