MAE Farms Parasitology Report 2016

History: MAE farms is a 73-acre predominantly swine-producing farm established by Mike Jones in 2004. The farm was established with a mixture of Chester, Duroc, and Berkshire hogs. The farm also produces chickens and beef cattle. No piglet processing is performed. Males are selected for castration around 6-8 months depending on their favorable or unfavorable characteristics.

Pigs are moved within the farm at least three times before they are ready to go to market. Sows are taken to farrowing huts two weeks before parturition and then reintroduced to pasture 4-6 weeks after their piglets are born. Sows acclimate to the pasture overnight before they are reunited with their offspring. The sows and their piglets remain on this pasture together until the pigs are weaned at 8-10 weeks old. From there, the sows go to breeder pastures and the weaned pigs are moved to a grower pasture. From the grower pastures, pigs are moved to market hog/cull sow pastures, with the timing of this move dependent on pasture conditions.

Earlier in the year, multiple piglets near weaning age began exhibiting a scruffy hair-coat and odd behavior, and multiple piglets died. They stopped nursing, jumped out of their pens, and sought out earthworms. Surviving piglets that exhibited the behavior were treated with in-feed fenbendazole and did not manifest further signs. On necropsy, approximately 50 1.5cm long nematodes were found in the stomach and gross liver damage was present, but no conclusive cause for the behavior was determined. There has been no dewormer use other than fenbendazole.

There is occasional condemnation of livers due to milk spots possibly due to *Ascaris* larval migration. This has been present in the past.

Results:

ID (pasture)	*Trichuris suis*	*Strongyloides ransomi*	*Ascaris suum*	*Oesophagostomum dentatum*	Coccidia
A1	+	+			+++
A1	+++				++
A1	+++	+			++
A1		+			++++
A1					+
A1					++
A1					+

A1					
A2		+		++	+
A2				+	
A2					
A2				++	+
A2		++		+++	++
A2					+
A2		+		+	+
A2		+		+	
BP		+			+
B4	+++				++
B4					+
B4					++
B4		++		+	
B4		+			+
B4		+			+
B4	++				
B4		+++			
B4					
B4- sow		+++		+++	+
C4	+				+
C4		+			
C4				+	
C4		+			
C4	++				

C4				+	
C4	++	+			
C4				++	+
C4		+			+
C4		+		+	+
C4	+			+	+
C4		+		++	

Pastures:

- **A1**- Young boar, 2 bred gilts, ~ 20 growers (same age, different sizes)
    - 2 growers were noticed to have a humped back, which Mr. Jones said he saw in the sick pigs
- **A2-** Market hogs, ~ 35 total
    - Market hogs, culled sows, one unthrifty bred sow
- **B4-** Mix of healthy and “sorry” pigs. ~ 37 total
    - 7 sows and ~ 30 piglets between 6-8 weeks (the same age of piglets who got sick)
- **C4-** Pigs who were showing symptoms in February

    - Before the pigs were in this pasture, the only animals who were on this pasture were cows for 5 years
- **BP-** Breeding Pair. One male, one female

Discussion:

Overall, none of the parasite ova levels found in our samples today indicated pathological burdens. The most consistent parasite that was noted in these pigs was *Coccidia*. The presence of *Coccidia* in a concentrated sample such as the one we did (2 grams) is not associated with production loss. We do not recommend treating *Coccidia* until you see clinical signs. These signs typically include enteritis and diarrhea (typically referred to as "scours") in very young piglets.

Oesophagostonum dentatum was found in pasture A2 and in low levels in C4. This worm is a worldwide problem and is found in the lumen of the large intestine of the pig. They have a direct life cycle, where the infective stage free-living L3 stage is ingested from the environment. L3 larvae are susceptible to dessication and usually live less than one month on open pasture. Most infections are asymptomatic in pigs, but if there is a heavy burden you may see signs of anorexia, emaciation, and GI disturbances. If you start to notice these signs in any of your pigs, especially in the pigs in A2 pasture, it could be beneficial to keep pigs off of this pasture until the *Oesophagostonum dentatum* have time to die.

Trichuris suis was found in pastures A1, B4, and C4. According to previous year's reports, this particular parasite started to become more evident last year. These parasites typically embed themselves in the epithelial cells of the large intestine, especially in the cecum. If levels of *Trichuris* are high enough to cause clinical signs, you will notice bloody diarrhea in pigs about 3-4 weeks after they are moved to a pasture infected with the parasite. Last year the pigs who were infected with *Trichuris* were in a pasture that we did not test for this year. It would be beneficial to determine where the currently infected pigs were before they were moved to the pastures they are in now. The main problem associated with a *Trichuris* infection is that their ova are very resistant to dessication and can remain alive on a pasture for several months. It is recommended to rest the infected pastures (A1, B4, C4) for as long as you can (at least 2-3 months) before introducing a new group of naive pigs. Hopefully after a couple of months most *Trichuris* will have died and the remainder will have washed away with rainwater.

The fact that the one sow in B4 showed significant amounts of *Strongyloides* in her feces is enough cause of concern to consider doing specific fecals on all 7 of the adult sows in the B4 pasture. While *Strongyloides* is typically not a problem in adult pigs, it can lead to significant disease in very young piglets and is transferred from ingesting a sow's colostrum and skin penetration. If piglets have a heavy infection of this parasite you will see clinical signs such as anemia, anorexia, emaciation, and even death. If a piglet survives the initial infection they will have a strong immunity against future infections, hence why older pigs usually do not show clinical signs. These tiny "thread" worms (< 1 cm) will be found in the villous of the small intestine and have a prepatent period of about one week. While the levels of *Stronglyoides*

seen in our samples from 8 week-old piglets were not exceptionally high we did not sample piglets < 4 weeks old. Testing sows for high shedders at farrowing may help in determining which sows to breed back and which to cull in the future. Shedding may be correlated with farrowing, so prepare to take fecal samples and treat around the same time.

Liver spots have been a problem for this farm in the past. Liver spots are typically caused by *Ascaris suum* due to an inflammatory response in the liver when they migrate. We did not find any ascarid ova in the samples we collected, but there is a chance that there are ascarids in the environment that were not in our samples. Our current recommendation is to not treat the pigs for *Ascaris suum* unless some of the pigs starts to show clinical signs of this particular infection or there is significant loss from liver condemnation due to “white spots”. With a heavy load of ascarids piglets can show heavy abdominal breathing, often referred to as “thumps”, unthriftiness, and stunted growth.