



Ontario Veal News

Spring 2009

Volume 16, Issue 2

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Our Mission:

The Ontario Veal Association is a producer organization dedicated to promoting and enhancing a viable and competitive Ontario veal industry through innovation, marketing, advocacy and education.

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Corn Mycotoxin Research Trial Completed

A team of researchers from the University of Guelph have recently wrapped up a feed trial involving grain-fed veal calves and the results indicate that feeding mycotoxin contaminated corn may not reduce calf performance or carcass quality.

“The effects of feeding corn naturally contaminated with Fusarium mycotoxins and modified glucomannan supplementation on growth performance, health and carcass quality of grain-fed veal calves” was the title of the collaborative University (Laura Martin, Dr. Kendall Swanson, Dr. Trevor Smith, Dr. Ira Mandell and Phil McEwen) project partially sponsored by the Ontario Veal Association.

“The swine industry has been conscious of the negative affects of feeding high mycotoxin corn to pigs for a long period of time. However, very little research has focused on feeding contaminated corn to grain fed veal calves” explained Phil McEwen.

In the Fall of 2007, a small pilot study was conducted to analyze the tolerance level in calves for the presence of fusarium mycotoxins in corn. A small group of eight calves were placed on feed for a five-week period and randomly allotted one of two dietary treatments: 1) non-mycotoxin contaminated, control corn or 2) corn, naturally contaminated with mycotoxins. Mycotoxin analyses of the contaminated corn indicated that the calves did receive moderate amounts of toxins but the calves were able to cope with this challenge. Therefore, it was determined to proceed with the full study.

The analysis of the corn indicated significant concentrations of DON (9.0 ppm) and zearalenone (1.3 ppm), two naturally occurring substances that have been found to decrease animal performance in swine.

In the Spring of 2008, the larger main trial began with the feeding of thirty-two Holstein bull calves. The calves were randomly assigned to one of four dietary treatments:

1. Naturally contaminated mycotoxin corn-low (low mycotoxin corn)
2. Naturally contaminated mycotoxin corn-high (high mycotoxin corn)
3. Modified glucomannan (mycotoxin absorbent) supplementation of the low mycotoxin corn
4. Modified glucomannan (mycotoxin absorbent) supplementation of the high mycotoxin corn

The calves were housed and fed in individual pens with corn being fed at 75% of the diet and the remaining 25% consisting of a custom supplement (with or without the mycotoxin absorbent). The calves were fed over an 84-day period at the Ponsoby General Animal Facility, University of Guelph.

Dry matter intakes (DMI) were not affected by either the mycotoxin feeding level or the absorbent supplementation indicating that the palatability of the feed was not compromised when high mycotoxin corn was fed. However calves fed the contaminated corn had a tendency for greater

(1.62 versus 1.72 kg) average daily gains and an improved feed to gain (better feed efficiencies; 4.21 versus 3.82) than calves fed control corn. There was no effect of mycotoxin level or use of the mycotoxin absorbent on most carcass traits (ie. hot carcass weight, back-fat depth and ribeye area).



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wreck (well in my mind they were still in it but getting that pulled out of them was a two hour conversation). After walking through the post-weaned calves that were standing humped back in the very naturally ventilated barn, 50% were BCS of 2.0 and eating poorly. Sure, natural ventilation is grand but when you are sick having wind and snow blow in on you isn't exactly what I have in mind.

So what went wrong if six months before things looked great! A lot went wrong! First of all the farm was trying to go from 600 to over 2,000 milking animals in one year. This has a tremendous impact on the psychology of people and they become overwhelmed whether they feel it or not.

There is also a mixture of endemic pathogens from three different countries. This means that while certain diseases are absent from the animals based on health charts, other bacteria and viruses are present and there will be a community sharing of these pathogens. Secondly, when you calve out 1,400 heifers in a year, you don't have as much quality colostrum as you would if you have a herd with cows calving for the second time plus. Thirdly, hutches are a very important tool but it sure would have been nice to have designed an area with some sloping or good drainage.

Combine all of this with the type of bedding used. Big straw bales with long pieces do not have the same absorptive factor as chopped straw or sawdust. Bring this all together and you create the perfect storm. The veterinary laboratory apparently confirmed that the cause of the pneumonia was due to PI3, BRSV and Mycoplasma bovis. I was at least happy that the results made sense but then banged my head against the wall in trying to get the vet to understand how medicating the milk before the animals get sick was my number tool to help put the fire out. It will only be on my next visit if I will know if they did anything that I recommended. In the meantime I have had other challenges and other farms to visit.

Personally, it re-iterates that we have a unique mix of lung pathogens both viral and bacterial that we must live with. For Canada and particularly Ontario/Quebec, we continue to try and farm and expect results as if we didn't have them. I still think that what we are doing in the veal industry is crazy. It isn't why do calves die;

it is why have we been darn lucky with so many living so we keep doing it? But the structure of dairy farms- both management and housing- are what they are. Bull calves receive the least attention and the transportation of bull calves is what it is.

I am still a believer of all in/all out. I believe in added warm air for the first two weeks to help weight loss while enteritis goes through the calves and then weaning in batches in a controlled air space. Otherwise, the pathogens that are in our population will continue to challenge everything we do. It would be nice to organize the industry differently. The current economic situation is weeding out even the backyard approach of purchasing small numbers and running small barns in a continuous flow manner. The types and kinds of bacteria and viruses in our population do not allow it. For those of you still in it, you are figuring this out from what I can see. For those of you struggling you have to make a choice, to stay in it invest to manage the pathogens that we have in our cattle population. ♦

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Phil McEwen suggests that "the overall results were encouraging but stresses that more work is needed to verify the present findings and explore other mycotoxin concentrations and combinations which can occur naturally".

Therefore more research is needed to investigate the effects of various mycotoxin levels and use of products to combat the mycotoxins before feeding recommendations are made. Meat residue testing will also be needed to determine if increased mycotoxin feeding levels affect concentrations in the meat. "This research will require a great deal of planning and consultation with various university and industry contributors and government agencies" McEwen advises. ♦

The project was funded in part by the Canada-Ontario Research and Development (CORD) program administered by the Agricultural Adaptation Council.

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TUESDAY

VEAL 9:30 AM

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Cows & Beef Follow The Horses

WEDNESDAY

Cows 10:30 AM

Stockers 1:00 PM

THURSDAY

Cows 7:30 AM

Stockers 11:00 AM

Dollar Calves 11:00 AM

Dairy 11:00 AM

Beef Noon

VEAL 3:00 PM

Hogs 1:00 PM

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