

The Mystery Location

This month we are showing a mystery "location" in your area. If you can't figure it out, call your Standard Nutrition Consultant and have them give some hints. September's mystery colony was Arm River Colony.

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Tobin' Talk

Jason McNaughton



The harvest numbers have begun to pour in, with most regions of the Canadian Prairies reporting good to great yields on canola and cereal crops. The main part of the growing season throughout Canada was somewhat cooler than normal, which has benefited these crop yields vs corn and soybeans. We have heard some reports from the US indicating near record numbers for corn and soybean yields, although late storms or early frost may still play a role in our final production. Overall grain/feed markets to date (September 15, 2009) have been reacting favorably to those producing meat through livestock production, although the demand models for meat still wane somewhat.

This creates a situation where production of feed through land based livestock operations continues to be the advantage that will keep these operations in full production. We have come to a pivotal time in livestock production as we await a consensus on how much will be too much for the next year or two. This is especially true for the producers of pork, where our previously reported liquidation occurs at the same rate that meat can be sold to the end consumers. This rate has backed up needed liquidation and slowed some production in the industry. In Canada, the iso-wean producers continue to leave the industry or alter their business plans to produce animals for marketing finished hogs in Canada. This is only possible through the availability of packer commitments to purchase this production which has been in short supply for the past 18 months or so. Not all liquidation has been from the iso-wean side although, which should create some space with packers for those wanting to expand, or redirect their iso-weans to finishing in Canada.

At Standard, our business dealing with producers continues to grow on both sides of the border. Our mission of assisting livestock producers in meeting their life objectives through profitable producing pork and poultry continues to be our strength as witnessed by the clients who have chosen to partner with our team to enhance their businesses. We feel fortunate as a company to be able to bring value to the very best production units in the world, and continue to be inspired by their commitment to the business, industry, environment, animals, and food that we produce.

Craig's Corner

Craig Anderson



As we consider the tough time in the livestock industry currently, we at Standard Nutrition Services realize the tough economic situation everyone is experiencing, no matter if one is a producer, or if one is a company such as ours trying to help producers be profitable both short and long term. We have taken some drastic measures to help ensure the livelihood of our customers, in that we have recommended feed products and programs for quite some time to help the producer from an input cost standpoint!

We have recommended a VTM program wherever and whenever it makes sense for the producer, to help cut costs without cutting performance. Our consultants have the ability to determine if this type of program is the best for the producer once the operation has been analyzed by that consultant. Some phases of the operation may utilize a VTM, while other phases may not, it all depends how the production management and nutrition side of the operation are set up. However, at all times, we will utilize the type of product VTM, Base Mix, or Premix which will allow the producer to be the most efficient he can be.

Everyone needs to understand that we study the whole operation and determine the best possible scenario for that operation, unlike some companies that continually move ahead with options that continue to cost the same, or even more in times such as these. Remember, there are no magic bullets out there to solve problems, rather a dedicated work ethic and common sense will produce desired results.

Nutritionally Speaking

Chris Mateo, Ph.D.

Bridging Nutrition & Immunity



With a background in animal health and nutrition, I have always been fascinated about how a pig's health status influence its dietary needs and vice versa. It is common knowledge that unhealthy pigs or pigs housed in unsanitary conditions consume less feed and have a limited capacity to grow. A possible explanation for this would be the nutrients that might have otherwise been utilized to support growth are actually being used to fuel the immune system's effort to fight-off a bacterial or viral infection in the pig. While there are no specific nutrient requirements established to boost immune function to date, research suggests a few nutrients such as amino acids (AA), fats, vitamins, and minerals may play a role in this attempt. In fact, immune cell proliferation itself is an AA and energy requiring process. The semi-essential AA arginine (Arg) has been reported to be the precursor of nitric oxide which is a cytotoxic agent used by immune cells against bacterial and parasitic challenges. On the other hand, fat, more specifically the n-6 (from plant-derived oils) and n-3 (from animal-derived oils) polyunsaturated fatty acids have been shown to increase and decrease the inflammatory response, respectively. Microminerals such as zinc (Zn) and copper (Cu) have been well known to decrease the

incidence of scouring in piglets and linked to an increase in lymphocyte response against various pathogens, respectively. Although, Vitamin E and selenium (Se) are recognized antioxidants which maintain cellular membrane integrity, these nutrients have also been reported to increase antibody production and lymphocyte proliferation in pigs. Similarly, a deficiency in Vitamin A has been associated with impaired innate and acquired immunological responses. These are just some examples of how nutrition can modulate immune function in the pig. It is important to keep this in mind as we develop nutritional strategies to address the concern of antibiotic resistance and niche interests in antibiotic-free animal production. As such, the relationship between nutrition and immunity deserves renewed attention. With the advances in science and technology currently available, understanding the mechanisms behind this relationship may allow us to finally determine specific nutrient requirements for optimum immune function. Please contact your Standard Nutrition Consultant for further information on other nutritional approaches to formulating your diets with the pigs' immune system in mind.

Swine Health Update

Colin Kirkegaard, DVM, MS

Novel H1N1 Influenza Virus Update



The fall and flu seasons are just around the corner. Now would be a good time to summarize our current knowledge on the novel H1N1 flu virus.

CANADA: Through continuing surveillance the virus has been detected in several Manitoba herds, including sow, nursery, and feeder barns in various locations in the province. In the herds where the virus was detected the disease was mild with pigs showing only slight signs of respiratory illness consisting of mild cough and nasal discharge, depressed feed intake, and elevated rectal temperatures up to 40.5 degrees C (105 degrees F). No deaths have been reported in these herds. Animals were monitored by the herd veterinarian and recovered uneventfully within 4-7 days after onset of the illness. This novel H1N1 flu strain is not behaving any differently in pigs than other influenza viruses commonly detected in swine herds. Farms where pigs have been diagnosed with the novel H1N1 do not require quarantine or eradication of the pigs. There is no evidence that animals play a significant role in the spread of the virus in the general human population.

US: The USDA instituted a voluntary surveillance program to test samples submitted to veterinary diagnostic laboratories for the novel H1N1 pandemic influenza virus. To date 114 samples have been submitted to the National Animal Health Network (NAHLN) and all have been negative. There have been reported cases of novel H1N1 virus infection in humans.

What does all this mean to swine producers? H1N1 strains have long been associated with "flu" outbreaks in swine thus conferring a certain amount of immunity to herds previously infected. The most prudent actions to be taken include the following:

1. Do not allow people (including barn personnel) suffering or recovering from the flu to enter your swine facilities.
2. Do not allow foreign visitors to enter your facilities.
3. Allow only essential visitors to enter your swine facilities after showering and downing clothing provided.
4. Isolate and acclimate all incoming breeding stock for a minimum of 30 days before introducing to your herd.
5. Herds at exceptional risk should consider the use of commercial flu vaccines containing the H1N1 strain.

Mike's Minute

Mike McNab

Standard Nutrition Turkey Consultant



When the topic of water acidification comes up, there are usually several ideas on what the best product to use is and how it should be used. Some things to keep in mind when considering a water acidifier are: it must be effective and economical in lowering pH, a blend of inorganic and organic acids generally provide better results than a single acid, and all acids need to be handled with care as they are highly corrosive. Not all acids are equal. Due to the natural buffering capacity of water, some acids will need to be used at a higher rate to reach a specific pH. A high quality acid is needed to lower the pH to the desired level without making the water taste bitter. Depending on the acids or carriers used, some acidifiers can make the water taste bitter. Birds prefer water that is slightly acid, but if the water tastes bitter it will reduce intake.

Acid is used to improve water quality by helping to remove iron and other minerals when used in a properly designed filter system. Acid is also a key part of a good sanitation program when used with chlorine. A pH range of 4.0 to 6.5 is best when used with chlorine sanitizers. A pH in this range will change

more of the chlorine into Hypochlorous acid (HOCL) which is a strong sanitizer and can kill bacteria in a matter of seconds. In higher pH levels chlorine changes to Hypochlorite ion (OCL) which is weak and can take up to 30 minutes to kill bacteria. HOCL is 80 to 100+ times more effective than OCL in killing bacteria. Lowering the pH and using a good water sanitizer will help reduce mold and bacteria in the crop of the bird which can have a positive impact on the rest of the digestive tract.

When using acid there are a few things to remember. Acidifiers ARE NOT sanitizers – use them as part of a sanitation program not in place of it. NEVER mix acid and bleach in the same stock solution container, they need to be injected separately into the water line. Check the pH of the water often to make sure everything is working as expected, one size fits all directions may result in poor pH adjustments. A bird will consume about twice as much water as feed, if the water is not properly managed it can have a huge impact on production. Contact your Standard Nutrition Consultant for more information on water acidifiers.

Nutritionally Speaking

Tracy Speirs, MS

Standard Nutrition Poultry Nutritionist



When feeding poultry we think about the ingredients we put into the ration. We look at the nutrient content, the anti-nutritive factors such as mycotoxins, and ingredient costs. But feed is not the only component ingested by the birds. The area of water and water quality are often forgotten. A bird will typically drink twice as much as it will eat. Requirements increase during times of heat stress when evaporative cooling mechanisms (panting) occurs. A bird will stop eating should water not be available but will continue to drink if the opposite were true. Therefore, it is to availability, the water must be of good quality. Various elements within water can affect litter quality, air quality, water lines and bird performance.

Mineral content such as sodium, chloride, magnesium and sulfates at high levels or in combination with each other can result in a laxative effect creating wet litter. This increase in litter moisture promotes bacterial growth, both pathogenic (disease causing) and ammonia producing. Higher ammonia levels can result in respiratory and eye damage, along with foot and breast lesions over time. This could lead to a decrease in performance and downgrades at processing. To decrease these ammonia levels ventilation rates must be increased and during winter months this will result in increased heating costs. Nitrates in the water indicate contamination of water by either fertilizer, human or animal waste. High nitrates have been shown to reduce bird performance, with older birds being more tolerant than younger birds. Nitrites another form of nitrogen in water is 10 times more toxic than nitrates. Nitrites affect the oxygen carrying components in the blood. This can lead to poor growth and diseases such as ascites.

Coliform (fecal) bacteria are typically caused by contaminated groundwater by manure or sewage. High counts will require accessing the well construction and once corrected, shock treating the well, and cleaning and sanitizing water lines prior to reusing. High E. coli counts cause enteritis and flushing in birds. It also will allow for seeding of the litter to allow for infection of joints, breast blisters and cellulitis under the right conditions.

Water hardness does not appear to impact bird performance but does build up in water lines resulting in lower flow rates and leaking nipples. It also contributes to the biofilm in the water line that supports bacterial growth. Caution must be used when treating water for hardness using water softeners as these will increase the sodium or potassium content in the water.

Water pH is of particular importance when using chlorine as a sanitizer. A water pH of 7.0 has an effectiveness of 75% in killing bacteria this drops to 52% at a pH of 7.4 and to 22% by a pH of 8.0. However, running too low a pH could cause birds to back off water and can corrode watering equipment. Various medications and vaccines are also incompatible with lower pH's. A standard water test for both mineral and bacterial components should be performed at least once per year, but twice a year is more favorable. This allows for feed formulation changes to be made that will minimize the influence of certain components within the water. Regular monitoring of water using ORP (oxidation-reduction potential) will confirm that water treatment with a sanitizer is actually being effective. Providing good quality drinking water will decrease condemnations, trim and mortality and will allow birds to perform to their genetic potential resulting in increased profits.