AgSpeak™

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VAL-CO

The quest for adequate biosecurity procedures is a top priority for every level of the animal protein supply chain. Proper signage and vigilance at the barn to protect against unwanted visitors, proper building maintenance to protect against disease carriers, and prudent use of disinfection materials all play a part in limiting the possibility of a disease outbreak. Equipment manufacturers have a role to play as well.

At VAL-CO, we have had strict biosecurity procedures in place since 2011. We take consistent measures to assure that product that has left the factory cannot come into contact with new products. When any product must be returned for examination or credit, it goes to a specially outfitted Biosecurity Room. The shipping package is not opened until it is inside the room and all personnel entering the room suit up in disposable PPE (bio-suit, gloves, boots, and hairnet) before entry. Most product is evaluated inside the Biosecurity Room and disposed of in sealed packages.

If product must leave the Biosecurity Room, it is disassembled as needed, washed, and fully disinfected before further analysis. Personnel dispose of their PPE prior to exit and disinfect hands and shoes.

VAL-CO is determined to do our part as an equipment manufacturer to assure that biosecurity procedures in the industry limit the chances of a disease outbreak. We encourage all segments of the supply chain to remain vigilant and resolute in efforts to promote biosecurity.

Phil Risser
President & CEO
Valco Companies, Inc.

The Swine Production Equation

by Matt Joyce

I have been asked since working with VAL-CO if I miss Hog Production. My answer is a simple "yes." After spending 22 years working daily with swine production and other growers, I miss the interaction and solving problems that arise daily. The most rewarding aspect of swine production is caring for the animals; being responsible for the care, treatment and wellbeing of these animals.

The most important thing to remember in Swine Production is "Feed, Water and Environment." That, in a nutshell, is Swine Production. There are many processes involved, but when looking at the basics of caring for animals, it's that simple…or is it?

Take feeding for instance: when piglets are born, it is imperative that they get colostrum from the sow, that will basically determine the chance of survival for the piglet. Studies have shown that as pigs nurse, they need creep feed, as well as the mother's milk, to grow to meet ideal weight at weaning. Pigs vary in size at weaning but it is so important for smaller pigs to be given a chance to grow with others the same size. There are a lot of supplements to provide gruel feed to add protein to the smaller pigs so they have a chance to catch up with the rest of the group.

Watering is also important to the growth of pigs; in the nursery stage of growth a pig will average about a gallon a day of water. Water should be filtered so nipples don't plug up and regulators provide the right pressure of water to be delivered. Water can be used to administer vaccines as well as different medication treatments; it is essential the daily water usage is monitored, which can be a leading indicator if a group of pigs are not feeling well.

Environment in Swine Production can be very confusing and there are so many ways to ventilate a barn. Back in the day, ventilation was easy because swine production was outside, so ventilation wasn't as much a concern. Technology has developed new and wonderful ways to ventilate indoor production housing: Natural, Power to Natural, Tunnel, and Filtered. There may be more variations but when looking at CFM's and static pressure it starts to become overwhelming.

So even though Feed, Water and Environment seem like simple concepts, Swine Production can be very complicated from time to time. That's why relationships in the swine industry are so valuable — people sharing thoughts and ideas of what they have learned and applying those processes.

Working for VAL-CO may have taken me away from the daily chores of Hog Production but it allows me to work with those that are caring for the animals and it allows me to help solve their problems and improve "Feed, Water and Environment" for our customers and their pigs.

VAL-CO focuses on Feed, Water and Environment — the employees may not interact with pigs directly, but the pride they take with their job impacts how the industry will be impacted for decades to come, and I'm happy to be a part of that.

Carcass Disposal

by Ericka Mongeau

Do you have a plan in place to handle mass mortality? With Avian Influenza making its way around the globe again, and the ABF movement holding strong, disease is becoming harder to avoid, and harder to combat. Sometimes, producers just can't win. While we hope that mass mortality is something no one should deal with, it does happen, and it's good to be prepared.

If your farm is infected with Avian Influenza or other highly contagious, high mortality disease, then dealing with sheer volume can be a challenge. It's important to make sure that carcass disposal keeps pace with the rate of infection and exposure to control disease spread and limit losses. To limit disease spread in a geographical area, on-site disposal is preferable to off-site disposal. Each state has different rules and regulations for disposing of mass mortality. For instance, in Nebraska, dead animals must be disposed of on the premise within 36 hours of discovery, unless being rendered. It's critical that you are aware of the laws and limitations in your area, as some of the practices listed may not be allowed, or are only permitted in emergency situations subject to oversight.

Burial, incineration, composting, and rendering are all suitable ways to dispose of livestock mortalities, but each comes with its own benefits and hindrances.

Burial

Burial is a long used method of removal where a trench or hole is dug on the farm, and as it is filled in with carcasses, it is backfilled with soil. Burial often presents ground water concerns so it is not permitted in many states. Because residue remains years after use, the practice is being discontinued due to a decline in the ground water quality around the pit. In addition, it poses a threat to human welfare as open ditches and poorly covered holes are hazardous and can results in cave-ins, causing worker injury or death.

A proper burial pit is fabricated from a concrete block, monolithic concrete, or treated lumber with a tight-fitting cover to reduce foul smells. OSHA requires wall supports for all burial pits to prevent cave-ins. Pits are best done in areas with fine textured soil such as clay or silt and must be located at least 100 feet from production facilities.

Incineration

Incineration uses a convection oven that burns at a high heat (>1400F) to reduce carcasses to ash for easy disposal. It quickly and safely eliminates disease pathogens. The process is both biologically and environmentally sound if using a commercial incinerator. Commercial units are often available in diesel, natural gas, or propane. They do not cause water quality issues, though homemade incinerators may not meet temperature and air emissions requirements set by local authorities.

Some areas have regulations on fuel use, location, equipment, and permits. For example, Nebraska fuel use regulations require that the sulfur content of diesel fuel be less

Burn Mizer Cremator

than .05 percent by weight, which is logged every time fuel is bought. The incinerator stack height must be a minimum 7 feet above ground and an afterburner with temperature gauge is required to verify the machine burns above 1400F. Permits or notification may be required before installation or use.

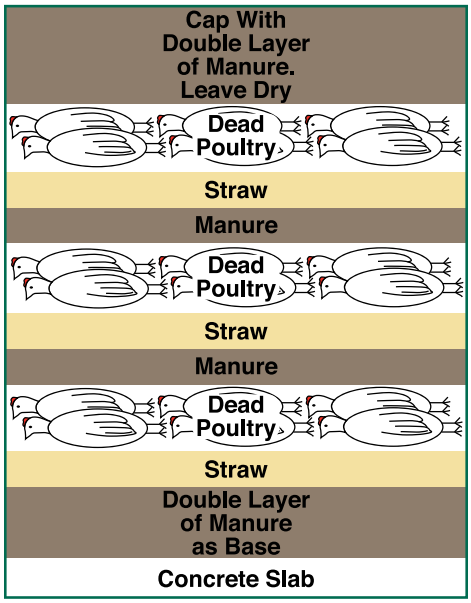
Most commercial units use oil or gas burners and automatic timers to ensure proper burn, and list their emissions, temperatures, and capacities on the unit. They often meet standards set by authorities and therefore users need only acquire permits, if necessary.

Composting

Composting is both biosecure and environmentally sound. It is essentially "burying" above ground with sawdust, or another carbon source, to allow the animal to decay. It's the controlled natural process in which beneficial microorganisms reduce and transform organic waste into a useful end-product. Carcass tissue is broken down aerobically by bacteria, fungi, and protozoa to produce water vapor, carbon dioxide, heat, and stabilized organic residue that can be used as crop fertilizer.

Sawdust is the preferred carbon source but chopped or ground straw, hay or corn stalks can also be used successfully. Composting can be done in static piles, bins, or windrows. Compost locations must be sited to prevent nutrient leaching and nuisance issues. Compost sites cannot be where it will adversely affect ground water should leaching occur. They must be away from neighbors and human dwellings and more than 100 feet away from production facilities to lessen risk of disease spread through rodents.

Poultry composting requires 2 bins for first and second stage composting. The required bin capacity depends on the size of facility and final bird weight, as well as type of co-composting material used. As a general rule, approximately 160 cubic feet of organic carbon source is required per 1000 pounds of carcass. More simply, a 3:1 carbon to mortality volume ratio is needed for effective composting.



Dead poultry composter bin layering

Compost temperatures rise rapidly to upwards of 130F as bacterial action progresses. Increased temperatures mean rapid decomposition and pathogen elimination. When temperatures begin to drop around 14-21 days, move to the second bin for aeration, mixing, and the secondary heating cycle.

To start a compost pile, place a fresh layer of a carbon source at least two feet in depth at the bottom of the bin or windrow. Particle size should be small but still allow air flow. Add carcasses and finished compost to inoculate and keep them covered with a 12" layer of carbon. The base layer is there to absorb moisture, prevent leaching, and provide pore space for air flow. Small carcasses can be layered; larger ones should be in one layer. Leave a 12" buffer around outer walls. The moisture content should be about 50% - when saw dust just forms a ball when squeezed but no water drips out - add water as necessary. The pile will not reach the necessary temperature for decomposition if there is too little moisture. After the pile cools, it needs to be turned – static piles and bins get moved to new piles or bins; windrows can be forked by a skid loader or hay spear.

In the event of a mass mortality due to disease, it may be best to use in-house composting to contain and eliminate the pathogens. In-house composting requires that carcasses and litter be left inside for the initial compost cycle for inactivation of pathogens within the material before removal from the facility. After which it can be moved for additional heat cycles and land application.

Rendering

Rendering recycles poultry carcasses into a protein by-product meal. Carcasses are grinded, mixed, pressed, separated then cooked, evaporated, or dried and the resulting meat and fat are suitable as animal feed. Carcasses need to be processed ASAP or stored to prevent decay. The cooking process kills bacteria but doesn't eliminate endotoxins produced by advanced decay and may cause disease when consumed, therefore, most rendering companies will not accept carcasses with evidence of decay.

There are some emerging methods of preservation, such as acid/base preservation. The process is suitable for long-term stabilization of carcasses and dramatically decreases levels of pathogenic microorganisms. Acid/base preservation uses mineral or organic acids as a preservative until the mixture is taken to a rendering facility. It preserves the nutrients and kills pathogenic microorganisms. Organic acids (acetic, propionic) show promise but may be prohibitively expensive.

Refrigeration/freezing is a common solution though some problems with completely freezing carcasses can arise when external temps are high.

Rendering companies have raised their fees or discontinued service in some areas because of changes in the by-product market and improved efficiencies in meat packaging companies. If rendering is used, carcass storage areas cannot be visible by the road and must be more than 100 feet from any production facility. Removal from farm and transport to rendering facility creates concern for disease spread. Using preservation methods, such as the acid/base preservation, minimizes this concern, but can be costly.

Producers should consider the location and limitations of their individual farms and make the best disposal decision based on individual needs. Local extensions are always available to give advice and should be consulted with questions or concerns.

BigTom™ is Big in Europe

by Galina Sadovska


Photo courtesy of Hodowca - in Poland

There are no Thanksgiving and Christmas turkey dinner traditions in the Old World, nevertheless, turkey meat spread its fame and now, there are a number of European countries like Italy, UK, and Poland who are historically holding a lead in EU turkey production and a few new producers like Germany, France, Spain are gearing up and specializing more and more on the turkey growing.

Turkey meat meets consumers' needs as everyone can eat it, with high protein content, no known allergies. The researched benefits of the turkey meat versus broiler meat raise awareness among the consumers, and those new trendsetter farms who are on guard of the consumers' demands successfully fill the appearing niche with old-new product.

The equipment suppliers flourish together with the meat producers by offering feeding and watering solutions for the turkeys. The challenge of the equipment suppliers is to meet the requirements of the day old poults who will grow to be pretty heavy birds, surely up to 25 kg (55.12 lbs.): how easy is the access to water and feed the first days and how heavy duty and robust equipment is during the growing stage?

VAL-CO proves to be one of the suppliers who takes care of the turkeys and their needs. Let's focus on drinking cups: what our European customers acknowledge as a big benefit of BigTom turkey watering cup is that it provides one system to serve all ages of the birds and still have excellent litter quality! What you hear from most of the customers in different languages: "So simple and so uniquely reliable! You will need just to raise the drinker lines according to the age requirements – and your birds are never thirsty". If you want to help your young birds, just put the green ball in the cup and that will trigger the nipple to provide additional water in the cups for poults. As the Spanish grower told: "Tests show that the BigTom blows away other suppliers". He is still hesitant to say more not to jinx the success. Does that tell you anything? The math is also easy – 30 turkeys per cup till the age of 7 weeks and afterwards 20 turkeys per cup. The older the birds, the stronger they get; however the stainless steel reinforcement at the bottom of the cup will increase the durability of the cup. Look – easy and durable, awesome results at a good price!

We will work on getting the data rather than words only, however, how rewarding is to hear those sweet words from the customers or dealers. We are extremely thankful to them for their trust!

Grower Spotlight

Stacey Vaughan

Nestled amidst the hills of Harrisonburg, Virginia lies an idyllic, serene farming community. Generations follow the path blazed for them by their parents and grandparents. Like so many in the area, Stacey Vaughan grew up in the poultry farming industry. As a third-generation farmer, he spent years growing broiler chickens. In 2007, he welcomed a new challenge – turkey farming.

When Stacey started raising turkeys, the current practice was to hand feed and let the birds drink out of open troughs. Houses were naturally ventilated through sidewall curtains and birds were kept warm with many low conventional pancake brooders. Stacey looked at the time consumed in feeding, cleaning out water troughs, and trying to manage the environment and saw an opportunity to bring his broiler experience to the turkey industry.

Stacey was in the perfect position to modernize turkey farming; he was an experienced broiler grower, and he ran a successful poultry equipment dealership, Valley Poultry. He knew exactly what equipment would make his turkey operation soar, so he worked with Cargill to renovate his chicken houses into turkey houses. Today, everything is modern. He grows from poults through adults in one barn, using automatic feeders

to supply both starter feeders and adult feeders. The enclosed watering system means it's always fresh, and the Big Tom turkey cup accommodates the birds from poults through adults, even handling the biggest toms raised today. The negative pressure ventilation means there is always a supply of fresh air in the barn,

and on those hot Virginia days, he can switch to tunnel ventilation to keep the birds cool. In the winter, the house is warmed with radiant heaters. And all of this is controlled with computers.

The turkeys themselves haven't changed much in the last ten years, but the husbandry sure has. Due to consumer demand for fewer antibiotics in the meat supply, antibiotic free (ABF) turkey meat is increasing. The movement took off in the turkey industry about two years ago and farmers are still trying to work out best practices. Stacey has four barns and raises three flocks of turkeys in each barn per year, so he puts out between 200-210,000 birds annually and he does what he can to raise them without antibiotics.

"We do this for the customers, we try to raise the birds antibiotic free because that's what the customer wants, but it isn't always a given. If the birds get sick, we treat them, but they can't be sold as ABF anymore. We're not going to let them suffer."

Stacey has raised several antibiotic free flocks, two of them this year, but it's not without its challenges. Everything needs to be cleaned and disinfected, thoroughly and frequently. Biosecurity is of the utmost importance to prevent disease to coming to the farm, spreading between barns, or

affecting subsequent flocks. It's also important to continue these practices even if a flock does become sick, because getting access to treatments is harder now. There are many more restrictions on what medications can be used to treat a certain disease, and the steps to getting those treatments are much more complicated than before, so it's imperative to keep the birds as healthy as possible from the beginning.

Like most farmers, Stacey also struggles with some of the necessary evils of raising birds. Fuel costs, electricity costs, fear of flu outbreaks, and feed quality all weigh heavily on poultry growers. A word of advice from Stacey? Run chlorine to keep your pH stable in the watering lines, clean out the feeders, use LED lightbulbs and energy-efficient fans, and always remember that the birds are your number one priority.

"Twenty years ago I thought we wouldn't be able to be more innovative, but every day it's just getting more efficient, more cost effective, more innovative, and more simple."

Stacey runs a turkey operation in Harrisonburg, VA with his wife Kimberly, son Boyd, and daughter Nina. He also runs Valley Poultry, a VAL-CO dealership, started by his father in 1983. They started out installing poultry equipment and now employ 20 employees and subcontractors. They sold Val Watering from the very beginning, and now offer a full line of VAL-CO equipment for broilers, broiler breeders, and turkeys.

US Broiler Industry Outlook For 2017

by Michael Kohls, Senior Product Manager

Winston Churchill once said if you put two economists in a room, you get two opinions, unless one of them is Lord Keynes, in which case you get three opinions. This is to say that economics is an inexact science, and economists are known for equivocating. I will state right up front that although I studied some economics in school I am not an economist, so I have no guilt about equivocating in the following brief macro analysis.

Donald Rumsfeld, US Secretary of Defense was famous for stating that, "There are known knowns. These are things we know that we know. There are known unknowns. That is to say, there are things that we know we don't know. But there are also unknown unknowns. There are things we don't know we don't know."

So, let's start with some things that we know, and where there is no serious equivocation about in the spring of 2017. Some of these "known knowns" are:

- The US broiler industry has now enjoyed several consecutive years of sustained growth and profitability.
- Broiler production is projected to continue expanding well into 2017 with a year-over-year increase of approximately 2%.
- After a dip during the "Great Recession", per capita broiler consumption has steadily risen over the past six years to its current record level of 91 pounds (41.27kg). This does not include spent hens which also end up in the broiler consumption chain, commonly known as "soup chickens".
- The average size of broiler chickens has steadily risen from year to year. It is now currently at, on average, 6.2 pounds (2.81kg).
- Further processed chicken meat has steadily grown to its current level of approximately 50% and is likely to continue.
- Exports have remained largely steady over the past decade at approximately 20% of total production. Brazil has been beset with a huge tainted meat scandal that could also bode well for U.S. exports.
- The trend towards producing more Antibiotic Free (ABF), and No Antibiotics Ever (NAE) chicken is now becoming well established. Perdue, as an example, has embraced ABF corporate-wide.

- We know that there is capacity expansion already "cooked in" for 2017 with many dealers already booked well into late summer and fall with construction contracts.
- Sanderson has announced the start of another large complex in Texas.
- The general economy is good and should remain that way.

Ok, now for some "equivocating" factors. These "known unknowns" might be:

- Feed prices (corn and soybeans) have been low for the past several years allowing for continued profitability. At this point in time, the 2017 crops are not yet in the ground and are an unknown wildcard for 2017 feed prices. A spike in feed ingredient prices could bring the current expansion to a screeching halt as it did during 2013-2014 when drought caused corn and soybean prices to increase dramatically and forced chicken producers into the red. This brought expansion to an immediate standstill.
- The Avian Influenza outbreak of 2015 was the worst in US history, and had far reaching impact on the Layer and Turkey industries. The broiler industry has the same vulnerability. Exports are especially sensitive to an AI outbreak. As of this writing there have been isolated outbreaks of low path AI in Tennessee, Kentucky, Indiana, Georgia, and Alabama. So far these are contained.
- Antibiotic Free chicken production requires more floor space, and creates higher production cost. But what we don't currently understand is where the market equilibrium point between conventional and ABF production is. ABF chicken is growing for certain, but not all chicken consumed will be produced this way in a price sensitive marketplace that includes home-cooked, restaurant, and commercial foodservice.

So, what can we realistically expect this year? (Or, off into the unknown!)

- Barring some major incident such as drought, a large AI outbreak, major international "incident", or similar disrupter the US broiler industry looks poised to expand another 2% or so.
- The now established trend that is taking at least part of the industry into ABF production requires additional floor space. Integrators embracing ABF will add growout capacity as their conversion to this type production requires.
- Chicken prices should stay above the cost of production until at least sometime in the fourth quarter of the year, if not the entire year.
- Many dealers are already booked several months out.

In short, 2017 should be another year, very similar to the 2016 year, which we just passed through. Our industry should remain healthy and business should remain good.

In The Spotlight

Employees

Name:
Matt Joyce

Position:
Swine Sales Manager

Where were you born?:
Carthage, Missouri

Hobbies:
My hobbies include hunting, fishing, riding motorcycles, spending time with my kids and grandchildren

Favorite family tradition:
My mon's birthday is on 4th of July so we always have a big BBQ and Fireworks not only to celebrate the birth of our country but my mom's birthday as well.

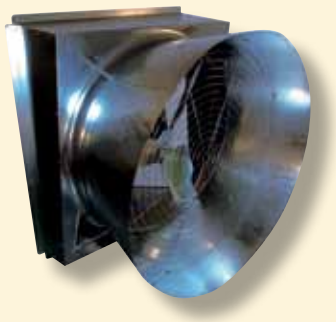
What changes have you seen in your years in the industry?
I remember when hogs were raised outside with huts and electric fences and it amazed me how they would tear up the environment with hog wallows. Today with the design of confinement production facilities it is better on the animals and the environment.

What technology do you see coming in the industry?
I think technology will continue to advance from video surveillance with auditing to ensure production practices are followed to accessing barn controls from your mobile device. I think the Swine industry will continue to push the envelope and find ways to improve production.

What excites you about your work and makes it easy for you to come to everyday?
The excitement for me is help solve problems and to improve VAL-CO impact on Swine Production. I feel VAL-CO has the values and integrity to impact the Swine industry for years to come.

Products

Z-Fan



The Z-Fan series of exhaust fans represents the next generation of ***corrosion protection*** in poultry ventilation. A proprietary coating is added on the housing, cone, and orifice sheet metal to survive in the most hostile environments, both inside and outside your house. Z-Fans are available in 36" slant wall, 48" damper, & 54" slant wall and damper. Each Z-Fan comes with industry-leading, VAL-CO engineered performance and is backed by a ***7 year warranty*** against rust through for poultry applications. Add peace of mind to your poultry house ventilation with VAL-CO Z-Fans.

Sable™ Fan

The Sable Fan is the newest line of fiberglass fans with ***light protection*** built in. The fan's housing is pigmented with black gel coat on the inside and white gel coat on the outside. This unique combination of colors naturally reduces the light inside the house, absorbing up to 23% more light than a white fan, while also limiting the temperature rise outside of the house caused by solar heat gain. Sable Fan housings are made from an incredibly durable composite design and come with ***VAL-CO's Lifetime warranty.*** Gain control of the light in your house with the VAL-CO Sable Fans, in 36", 50", & 54" sizes.

*Visit **www.val-co.com** to learn how these fans can help your operation.*

Fun Stuff

Word Search - VAL-CO Swine

W W L U S Y U C U J S K X Q A T C A E I
Q E G T S C T Z G R U E L P M O B S A O
M A F N W Z U I E K G T X R R Z H N X V
U N G O L H W C R F N M N U H J H O Y W
R E S I U P U J U U X X D U T X Y C C U
T R J E L D S A L P C W O R R A F A N H
S R R O O T Z L B U N E P S R K M B O T
O W K R B F S V M Y O E S Q I E O G F N
L C P N H O H B L D W S P O Q R S U K P
O B X L K B V E B R H T K N I N H M L M
C G E W X F D F I N I S H E R B Z B S W
B G F R D K A O Q L J J X X J J J P O J
O T F N H W P O R G Z V T E O P M Q V M
A M F S B N B K M G X J P I N L O F V C
R A I P H V Q R P H G I P C Q I S G I P
B Y D D S M Y O M U G Y M J X W W I K O
X O A C W G O P V L F K C O K Y M S W F
P J S G X E L X E S O M V B N V K Z B S
M P B L F W S T X D Y L B G E L L C T T
N O I T A L I T N E V U Q N K F R A J B

Can you find the following words?

BACON
BIOSECURITY
BOAR
COLOSTRUM
DUROC
FARROW
FINISHER
GILTS
GRUEL
HOGS
PIGLET
PIGS
PORK
PRODUCERS
RUNT
SOW
SWINE
VENTILATION
WEANER

The first 5 people to complete this puzzle and send it in will receive a *$10 gift card* to an establishment of your choosing (see below for list of options)! Just complete the puzzle, fill out the form below and send it to us via email to ***marcom@val-co.com*** or via fax at *717-355-2505*. Have fun and good luck!

Name: _____ Company: _____

Address: _____

City: _____ State: _____ Zip: _____

Email: _____ Phone: _____

Choose your favorite: ☐ McDonald's ☐ Chick-fil-A ☐ Starbucks ☐ Walmart ☐ Pizza Hut ☐ Amazon