AgSpeak™

Vol. 2, No. 2

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VALCO

At VAL-CO, we strive for continuous improvement. Providing our customers with industry leading products and services demands that we better ourselves relentlessly.

Our goal is to provide the best value to our customers by supplying products and services that are the best in the industry at the most competitive price. In order to reach this goal, we make sure we get feedback directly from growers and our dealer network on how we can best improve our products and services. That advice leads our team to the advances you have come to expect from VAL-CO.

VAL-CO employees are expected to find ways to improve our products and the way we operate every day, every week, and every year. This issue of AgSpeak has examples of the continuous improvement of our products and the ways that our efforts pay off for growers. It also shares some of the ways we provide service to our customers beyond supplying products – through training and sharing management information.

VAL-CO products have a long history of being innovative and reliable. Our continuous improvement efforts assure you that we are building on that foundation and tomorrow's VAL-CO will be even better than today's.

Phil Risser
President & CEO
Valco Companies, Inc.

Addressing the Challenges of Breeder Feeding

by Ericka Mongeau

Feeding breeding pullets and hens comes with a unique set of challenges. The birds have a genetic predisposition towards rapid weight gain which needs to be monitored and controlled to maintain good productivity and good productivity starts with a healthy, consistent pullet flock.

If breeder hen pullets were fed a standard diet, a typical corn-soybean meal fed ad libitum, they would reach ideal reproductive weight at approximately six weeks. At this age, they do not possess the necessary maturation to properly respond to light cues that induce the beginning of lay. This does not happen until approximately 20 weeks of age. If the pullets were to still be fed at the same rate for the remaining 14 weeks, they would be too large to properly procreate; egg production and viability would not be sufficient to support the necessary stock for the broiler houses.

By controlling feed intake, we can control the weight gain and flock uniformity, both crucial to optimal breeder hen performance. Diet is commonly restricted to 70-80% of what birds consume ad libitum. Whether that diet is restricted via volume or feed quality is producer preference, but most choose to follow a skip-a-day feeding regimen.

Skip-a-day feeding allows two days' worth of food to be given at once, using all the available feeder space so every bird gets a chance to eat her fill. This reduces competition amongst birds and results in better flock uniformity.

There are two main causes of poor flock uniformity: inadequate feeder space, and poor feed distribution.

Aggressive eating behaviors are learned. If there is not enough space, aggressive birds will push timid ones

aside. Consequently, the timid birds don't gain enough weight and the aggressive ones gain too much.

To combat these issues, make sure there are enough feeders for every bird to find a place to eat. Fill the feeders as quickly as possible so that the birds do not have a chance to crowd or pile on to each other. Filling feeders out of sight of the birds, either in the dark or when raised, gets feed in front of the birds when lights come on. Use auxiliary hoppers to get feed out faster – two minutes should be the maximum amount of time it takes to get in front of all birds.

Implementing these practices early on can improve uniformity and performance. Birds will learn to eat more slowly, extending feeding time, and allowing all birds ample time to get the nutrients they require.

Keeping on Track

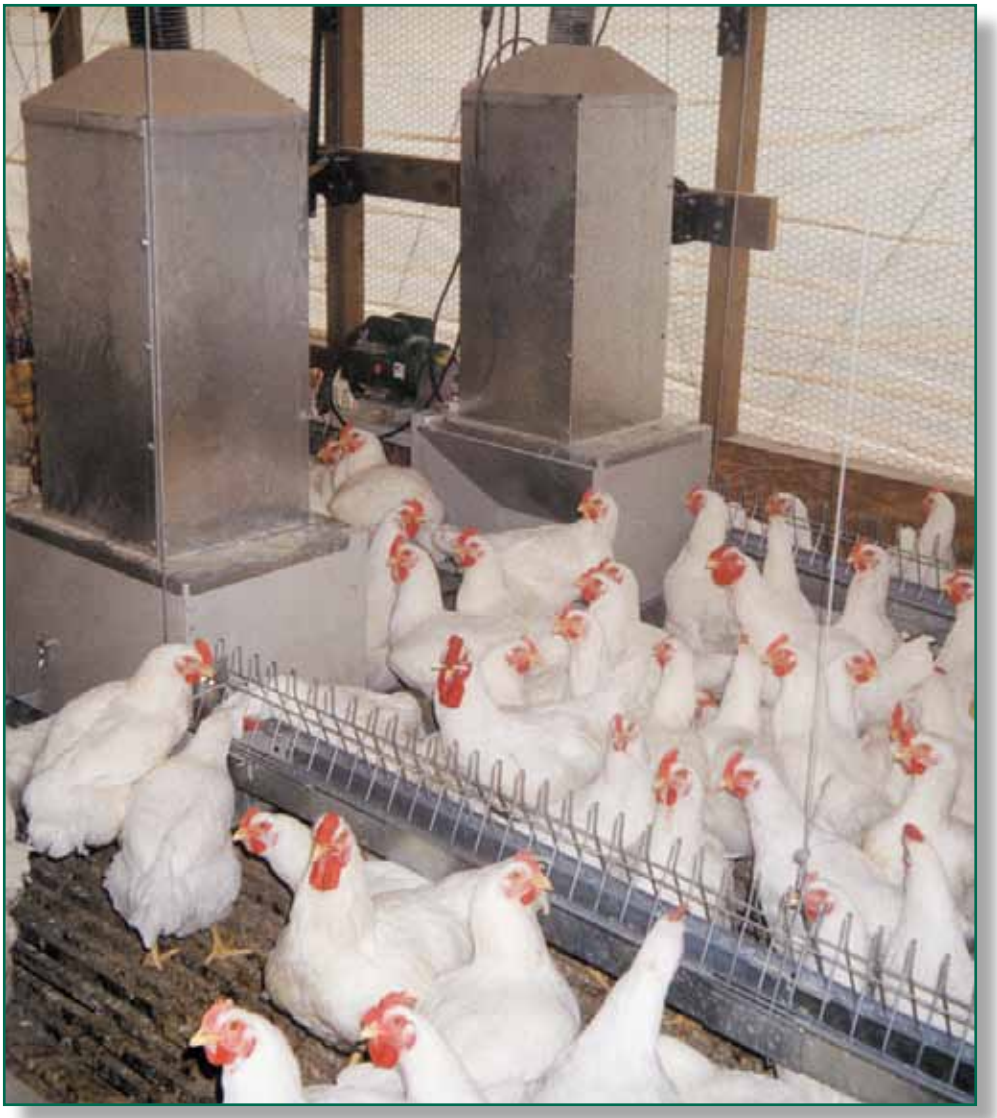
Handle the birds to check their fleshing. Fleshing is an indication of how much muscle is developed on the breast and wings. From this, fat deposits should increase gradually up to and during the onset of lay. To make sure that fleshing is on track, the birds should be handled at 12, 16, 19, and 21 weeks of age, then adjust feed as needed. Overweight birds should be kept consistently overweight at each mark (if 100g (3.5 oz.) over at 16 weeks, should also be 100g over at 20 weeks), but underweight birds should be attended to so that they gain more weight.

Be sure that you are within the primary breeder guide recommended target body weights. Use accurate and frequent weighing to know where the bird weights are currently, compared to where they need to be. Track body weight gains to identify trends that will help you make adjustments to hit your goals.

Ready to move to the hen house?

Have a plan to feed the hens in their new environment. Pullet service techs and hen service techs should collaborate on the initial post-transfer feeding plan, and you should have a long-term plan to manage weight gain throughout egg production.

Make sure hens find feed and water. The first 21 days post-transfer are critical, so it's imperative that hens find feed and water right away. Be present at feeding time. Help birds locate feed and water on the slats; place them there if necessary. Check that feed is evenly distributed and all systems are working properly. Adequate feeder space will reduce chaos and competition. In turn, it'll improve feeding ability, body conformation, weight gains, and feed efficiency, all leading to better production.



Batch Farrowing: A Renaissance in Swine Production

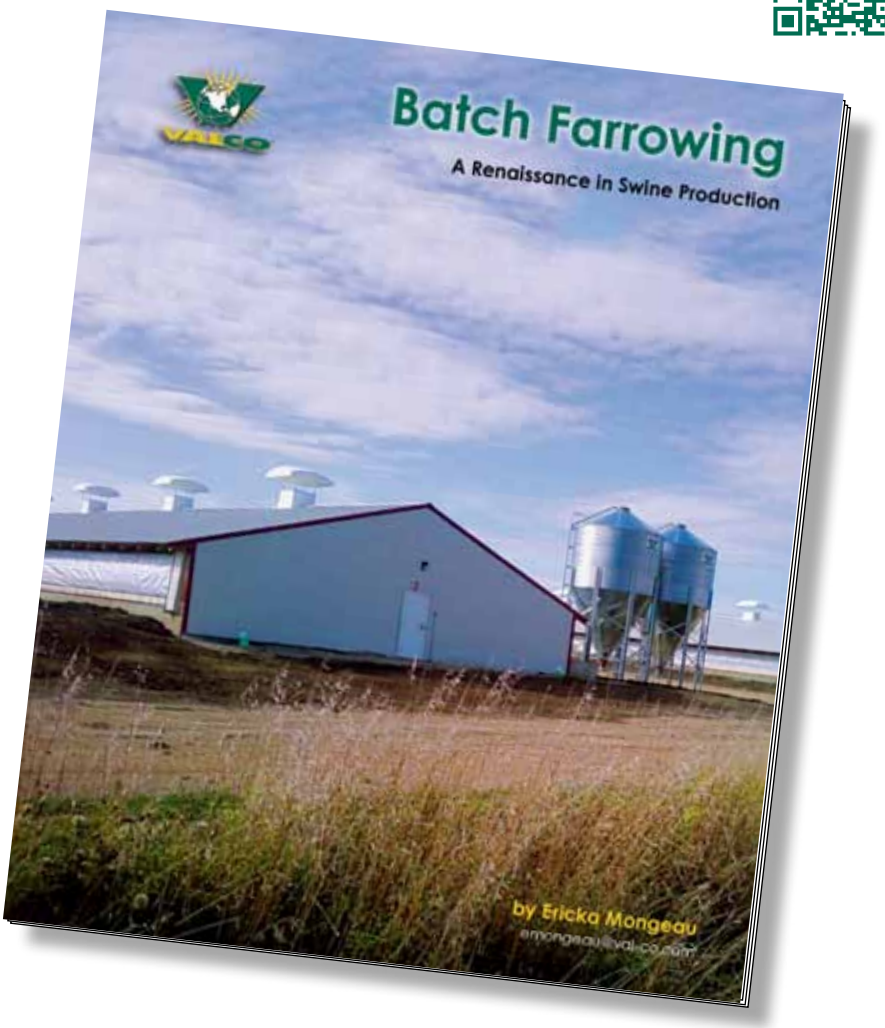
by Ericka Mongeau

Commercial swine farming has had a long history, but it's only more recently we see it beginning to repeat itself. When farming was more concerned with plant crops, farmers kept enough livestock to feed themselves and their neighbors. The pigs were raised with little direct management, left to forage for food, fed leftover scraps and by-products, and used to glean fields after harvest. They were an essential part of any farm, grown for pork and lard, and could be a ready source of income at the market.

Originally bred in large part for lard, pigs were much fattier before the 1950s. Slowly, as animal fats were given a bad reputation and the consumer became more health-conscious, pigs became more and more lean. The evolution of pig breeds and feeds meant that pigs could grow leaner faster than ever before. This also meant that the pigs didn't have the physique necessary to weather the elements, and so, pig operations were moved inside where the temperatures could be stable and controlled.

As the fat content of pork decreased, the demand for "The Other White Meat" increased. Group or batch farrowing of pigs was designed around planting and harvesting seasons when there was less labor available for the hogs. Seasonal batch farrowing was used in the 60s and 70s, as pigs would be bred and farrowed during the spring and fall. During the 70s and 80s pork producers moved from farrowing two times per year to more intense year-round farrowing to make better use of facilities and labor. At the time, the industry practiced more All-In All-Out use of farrowing and nursery rooms

Scan the QR Code or visit http://val-co.it/WP-BF to download the complete White Paper.



with a greater focus on sanitation and pig health, but as labor became more intensive, batching fell by the way side.

There were several approaches to batching based on the number of rooms available and preferred weaning age. The simplest system had two groups of sows farrowed 12 weeks apart. A more intense system had three batches of sows farrowing eight weeks apart. Both systems used one farrowing room and one nursery. As systems became progressively more intense by breeding more batches of sows to farrow in a shorter amount of time at younger weaning ages, problems arose. Common concerns, such as when to add replacement gilts to a group, identifying returns to estrus, and fitting them into groups made batch farrowing more complicated. By the 90s there was a move to weekly farrowing (weekly farrowing could technically still be considered "batch" farrowing, but it doesn't operate under strict scheduling of tasks) to make regular use of facility investments.

Today, there is a gradual shift back towards using a batch farrowing system, in part to prevent the spread of highly contagious diseases through a herd, but also because growers have found that batch farrowing leads to a greater number of piglets that are sold at more consistent weights. Done properly, there can be less mortality, less disease, less stress, and more profit.

Unfortunately, today's pig farmers are largely uneducated in the practice of batch farrowing. It's been practiced in Australia and Europe, but the American farmer is still hesitant to commit to the shift. We outline the advantages and disadvantages of batch farrowing in the white paper, as well as some practices and guidelines to help make the transition to batch farrowing a smooth one.

Providing You a Proper Controller Education

Every year, the VAL-CO Swine Sales Team organizes a series of controller trainings with integrators like Smithfield Foods and Christensen Farms. The goal is to educate the company-employed production and maintenance staff, as well as independent contractors, of the basic function of the VAL-CO controllers, address some of the most common concerns, and demonstrate troubleshooting processes that are encountered in the field.

These trainings offer a unique opportunity to learn hands-on the ins and outs of the Ventra Pro and Ventra Plus controllers. Guided by VAL-CO Technical Support, participants watch a slide presentation on the basic functions of the controllers – set-up, adjusting settings, and personalizing the controller per the operation. Throughout the training, tech support addresses the most frequently asked questions that are seen in the field.

An integral part of our Training Program - Mark Stoner (left) and Matt Murray (right)

To provide the most integrated experience possible, the final activity is a series of stations, each programmed with a different problem often seen in the field. Participants are split into groups and given 10 minutes at each station to identify the problem and dictate how they would go about solving it. This rotation fosters an ability to troubleshoot and problem solve in real time and opens a dialog as the groups work through problems on their own and questions arise.

Usually attended by 10-30 industry professionals, they take home with them a new basis of knowledge to apply in the field, a working understanding of troubleshooting processes, and a workbook to reference on future calls. Want to set up a training for your team? We're happy to help! Want to do a training on a different VAL-CO product? We can do that, too! Just contact your local sales representative or email ***tech-support@val-co.com*** and tell them what you need, and we'll get the planning underway.

Grower Spotlight

Bryan Essex

Bryan is the Owner/Operator of 8 broiler barns in northwest Arkansas. His farm has been in operation for just about two years and has just finished its 10th flock. Every single flock has finished in the top 3, and he attributes his success to the VAL-CO system.

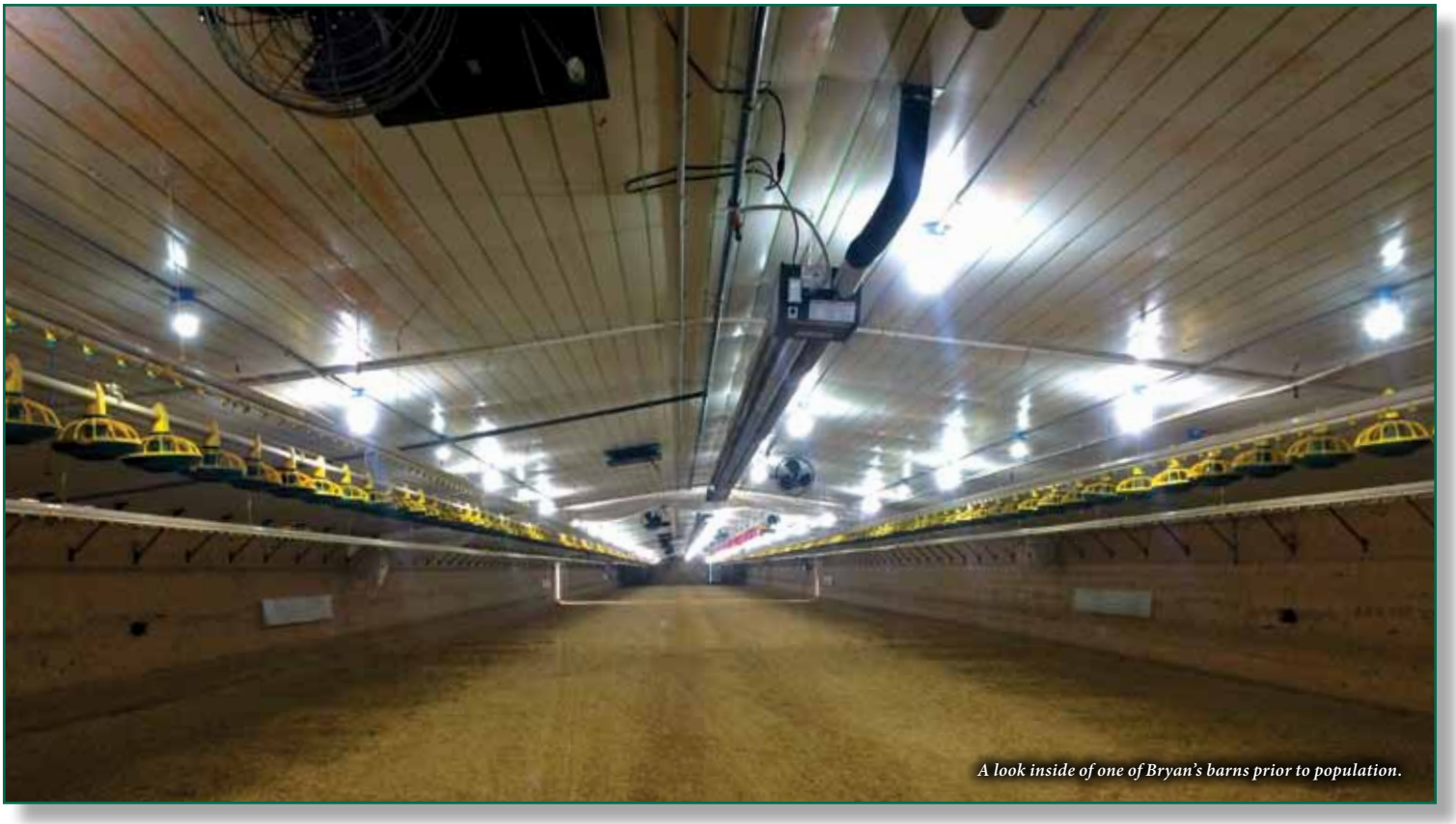
Each of his 46x520 houses are equipped with FUZE® ProLine 14", 14-spoke feed pans, Quencher nipple drinkers, and HyperMAX™ 54" galvanized damper fans. For him, choosing VAL-CO was a no-brainer. "I saw feed trial after feed trial of the VAL-CO FUZE ProLine feeder out-performing the competition. I just wouldn't consider anything else." And so far, it hasn't failed him. Bryan has consistently finished on top with high weights, great feed conversion, and impressive daily gains.

FUZE ProLine Feeder

Bryan got his start in poultry after completing his degree in Poultry Science at Texas A&M University. He has a full-circle view of the poultry industry. He started his career in processing, and then moved into live production as a breeder and pullet technician. He worked in poultry house construction for a bit, followed by three years as a VAL-CO sales representative, and is currently working for an animal health distribution company.

For biosecurity purposes, Bryan limits his time at the farm, and instead relies heavily on the expertise of his farm manager. He chose to outfit his house with equipment he knew would be easy to manage, so that more time could be spent focusing on the birds.

He says the key to success is two-fold: have a great system; spend time with your birds. "If you take a great system like VAL-CO and couple it with good management,



A look inside of one of Bryan's barns prior to population.

you're going to see the results we're seeing." Know your system, how it works, and how you can make it work for you. And know your birds. Know their eating and drinking habits and double check their environment. If you think you have tried everything, or you are looking for advice, call your local VAL-CO sales representative or send an email to ***sales@val-co.com***. They are personable, professional, knowledgeable poultrymen and they are there to help you and your business succeed.

Bryan wanted to share some of his flock results - see the info on the right. He wanted everyone to know that they, too, can achieve top results with a combination of proper management and VAL-CO Products.

An aerial view of the 8 houses Bryan has been so successful with.

Flock Type: Big Broilers

Flock/Finished	Age	Avg. Weight	Feed Conversion	Adj. F. C.	Liv%	Daily Gain
#1 / 1st	53	7.80	1.87	1.79	95.26	.1472
#2 / 3rd	50	7.34	1.82	1.78	95.43	.1439
#3 / 2nd	54	7.66	1.87	1.81	94.78	.1419
#4 / 2nd	52	7.53	1.83	1.78	96.76	.1448
#5 / 3rd	50	7.48	1.81	1.76	95.18	.1496
#6 / 1st	49	6.99	1.81	1.81	95.44	.1427
#7 / 1st	50	7.04	1.80	1.80	94.19	.1408
#8 / 2nd	47	6.76	1.83	1.86	95.00	.1438
#9 / 2nd	51	7.31	1.79	1.76	96.56	.1433
#10 / 1st	49	7.19	1.78	1.76	96.48	.1467

The Importance of Flow Rates & Water Pressure

Broilers consume ~1.75 pounds (.80 kg) of water for every 1 pound (.45kg) of feed. The ratio is a constant, but the amounts will increase over the birds' lifespan. This means that we need to know how much water a bird requires at each stage of its life.

Remember that due to chicken physiology, there is a maximum rate at which they can consume water, and this rate changes with age. We know that, at most, a 9-lb. (4.08 kg) bird can consume water at a rate of 85ml per minute. To determine what this rate is at any weight or age, use this equation:

[(Bird Age in weeks) x 7] + 20 = Flow Rate

This equation creates a target sweet spot for producers where the drinker flow rate matches the beak capacity of the bird. Drinker flow rates are important to note, but the water pressure in the drinker line influences the flow rate.

Too much water pressure results in wasted water because too much water comes out when the nipple is triggered. It can also result in leaky nipples because it will inhibit the shut off mechanism from sealing properly. Too little pressure doesn't allow the birds to drink enough, resulting in decreased performance.

Actual flow rates are a combination of standpipe pressure, drinker type, and triggering action of the drinker (side triggering or vertical triggering). Remember, that the system needs to be able to keep up with demand, and that pressure will be reduced by inadequate sizing of incoming water lines, inadequate well capacity, and too little pressure at the regulator.

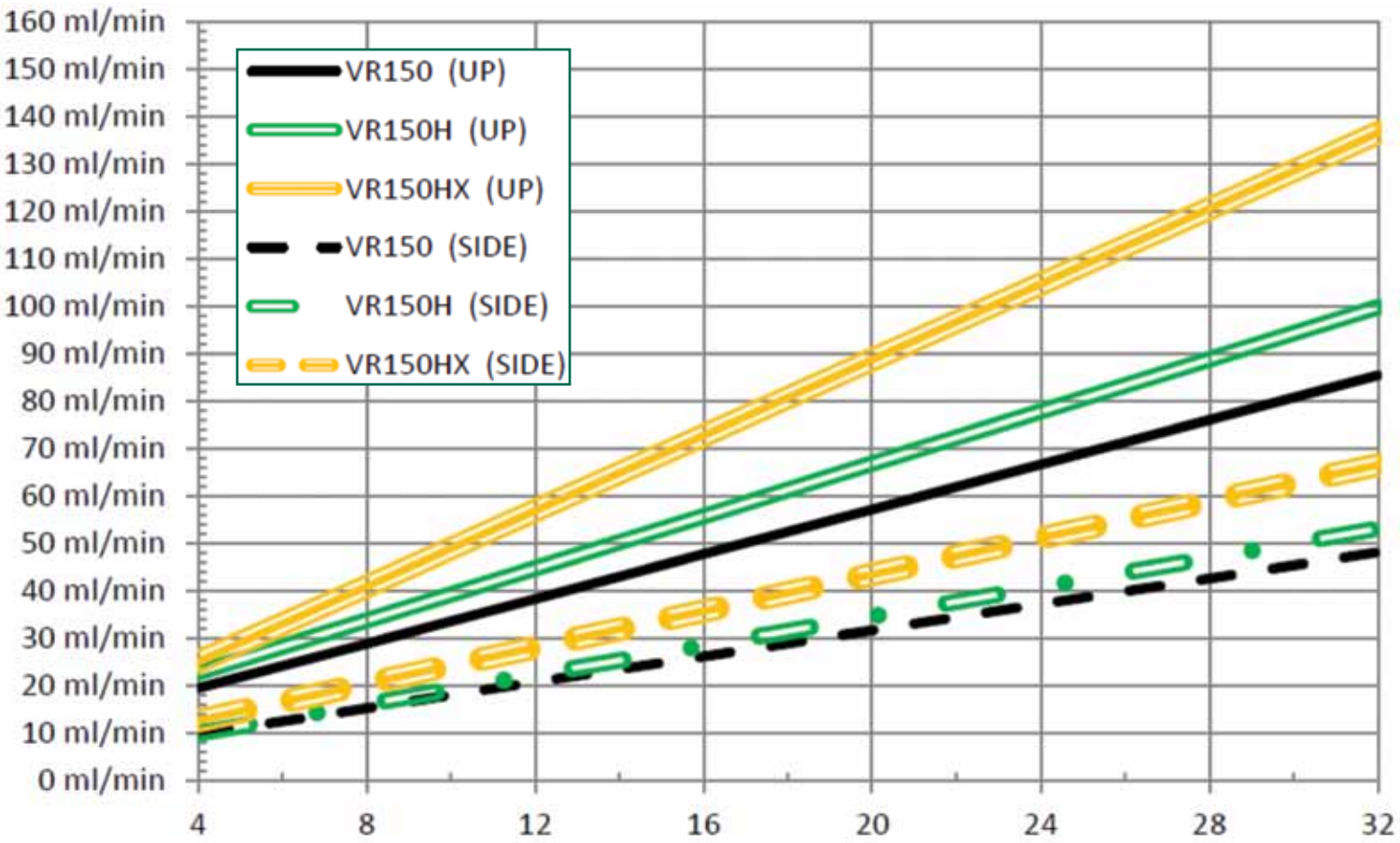
As a general guideline, you should provide at least 25 psi (pounds per square inch) or 1.72 bar of pressure to the regulator, but no more than 75 psi (5.17 bar) for a standard regulator. If your supply is above 75 psi, incoming to the house a high-

TOO MUCH WATER

1. Spillage leads to poor water quality
2. Ammonia levels increase, potentially causing respiratory and eye problems.
3. Footpad health problems and decreased bird mobility.
4. Breast blisters and condemnations.

TOO LITTLE WATER

1. Decreased water consumption leads to decreased food consumption.
2. Dusty conditions in the barn lead to other respiratory health problems.



pressure pre-regulator should be installed to help improve the life and efficacy of the watering system.

Day old chicks require about 1-2" of standpipe pressure. As they grow, increase the pressure 1-2" every other day until you've reached 28" of standpipe pressure.

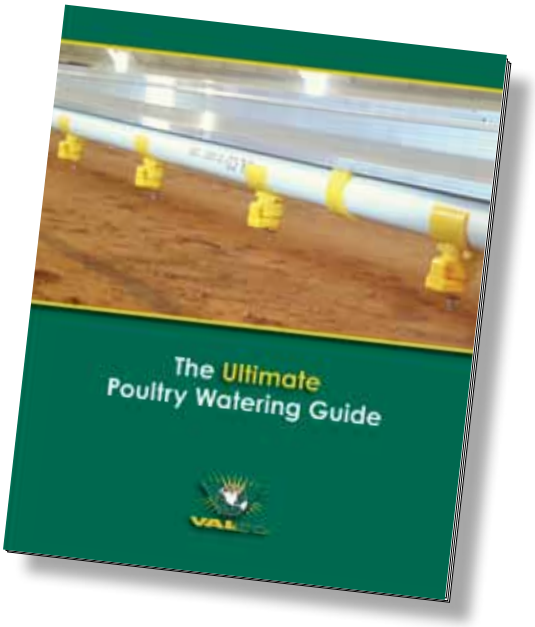
If you notice that litter has become too damp, stop raising the pressure until the litter conditions have returned to normal (litter should be just damp enough that it clumps and then crumbles when squeezed into a ball). Once the litter conditions have stabilized, continue adjusting the pressure incrementally.

Above: A flow rate chart for some our popular drinkers

Below: An approximate guideline of water pressure for birds at various ages

Bird Age	Typical Standpipe Pressure for VR150 drinker (in.)
Day-old chicks	1-2"
Day 3	3-4"
Day 5	5-6"
Week 1	7-8"
Week 2	11-12"
Week 3	17-18"
Week 4	23-24"
Week 5	28"

Scan the QR Code or visit val-co.it/TheWaterBook to download the complete Ultimate Poultry Watering Guide.



In The Spotlight

Employees

Name:
Derrick Ament

Position:
Director of Sales, Egg Industry

Where were you born?:
Pennsylvania

Hobbies:
Volleyball, traveling (eating local foods & experiencing local cultures), boating

First Job:
Selling and renting inner tubes to float down the Pequea Creek.

Favorite family tradition:
Toss-up between Dutch chocolate letter for first initial at Christmas and making apple sauce and apple cakes with the family.

What changes have you seen in your years in the industry?
The ability of animal activists to transform the way we produce food, independent of the desire of most consumers.

What technology do you see coming in the industry?
The internet of things bringing a greater level of feedback in more products and facilities used in the industries we serve. Including sensing capabilities that would let the farmers/farm managers know which pieces of equipment need service and the type of service that is recommended.

What excites you about your work and makes it easy for you to come to everyday?
For me, it comes down to two things:
1) the people and
2) the challenge of coming up with new solutions with/for our customers.

Products

Atlas™ Curtain Machine

The new ATLAS Outdoor Curtain Machine has been designed to meet the demands of today's poultry operations. The updated circuit board and improved components, along with rigorous testing protocols, have made this our safest and most durable curtain machine yet. We stress tested the machine to assure top performance and added additional steel so that the ATLAS can easily and safely lift 4000 pounds! The new circuit board has built-in surge protectors to safeguard against voltage fluctuations, a back-up kill switch that

cuts power to the motor to prevent overtravel damage, and updated processors to handle conflicting signals from the controller. Ball-screw and Acme-screw models are available in 24", 36", 48" and 72" sizes.

Aqua-V™ PFA Layer Drinker

We are proud to introduce a new addition to last year's immensely successful Aqua-V Series of layer drinkers, The Aqua-V PFA. These new drinkers bring the Precision

Feather Action style of J-Lock drinker to the layer market in a more price competitive value package. The Aqua-V PFA drinkers are offered in standard and high flow variants. The Aqua-V drinker's bright lime colored body not only makes it easy for birds to see, but it also visually differentiates the drinker from other VAL-CO drinker offerings. Additionally, the PFA feature makes for a much more comfortably actuated drinker, especially for young layer pullets. Get noticed, with the Aqua-V.

*Visit **www.val-co.com** for more info and to find a dealer near you!*

Fun Stuff

Cryptogram - Quote of the Day

This type of puzzle is called a Cryptogram. At the top there is a KEY that lists all the letters from A thru Z with a box below. Each of the letters has a corresponding number.

The bottom part contains a secret phrase. Each of the blanks has a number underneath it. Fill in the letters that correspond to the numbers below the blanks to solve the phrase .

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
7			14									18													

A														M			
7	26	9	16	17	5	8	15	5	9	24	16	20	15	11	24	18	19	20	15

		A							,	M									,
11	24	7	8	15	11	23	5	8		18	19	20	15	5	20	24	23	5	8

A		D	M										M					M			
7	25	14	18	19	20	15	25	19	4	8	24	24	18	1	8	19	22	18	24	25	15

		M	A		.							A								
19	23	18	7	25		26	24	19	9	26	24	12	7	20	11	16	25	26	15	19	25

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