AgSpeak™

Vol. 4, No. 2

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VALCO

The most successful technologies are those that help us respond quickly. The old saying that "the only constant is change" might be cliché, but if we don't adapt to changes in our markets, the products we produce will not be in demand. This is true for poultry farmers, pig farmers, duck or egg farmers, and indeed everyone who helps to feed our world.

The success of our customers is firmly rooted in how well we help them cope with a changing production landscape. Rising energy costs have made energy efficiency more important than ever, and the new VAL-CO V-Fan™ addresses this need with state-of-the-art technology and our legendary fan reliability.

As the protein production market changes, so do requirements for equipment maintenance and care. The move to antibiotic-free protocols continues to overhaul the way we produce meat and we must stay ahead of production challenges as they develop. An increased use of water additives has resulted in increased water line concerns, so we've outlined some practices to help you test, treat, and maintain a healthy water supply.

When new technology is paired with our dedication to product performance, the result is equipment that helps you finish on top. Our Grower Spotlight in this issue highlights the success that VAL-CO equipment can provide by detailing the experience of Rodney and Kim Tarlton of North Carolina.

VAL-CO is here to help you finish on top in 2020, too!

Phil Risser
President & CEO
Valco Industries, Inc.

ABF/NAE Water Line Care

Over the past few years producers, integrators, and manufacturers have worked hard to develop an antibiotic-free (ABF) / no antibiotics ever (NAE) poultry production system that works. The system uses a series of supplements such as probiotics, prebiotics, essential oils or additional electrolytes, vitamins, and minerals to encourage healthy intestinal flora and build resistance to disease. However, with time, we've started to see the collateral effects that these supplements have on equipment systems, primarily, water lines.

The supplements are administered through the water lines, which are often already a haven for bacteria growth, and can encourage more rapid biofilm development if not properly managed. For instance, probiotics are a live bacteria that thrive in the gut, but also thrive in the drinker system. Similarly, prebiotics – whose function serves as a food source for good bacteria in the gut – really serves as a food source for any bacteria anywhere, accelerating the growth of both good and bad bacteria in the water line. Essential oils are sticky and difficult to clean and can create a breeding ground for the bacteria in the water lines. If not managed, the resulting biofilm clogs up regulators, water lines, and nipple drinkers. Biofilm is a tricky thing. It grows quickly, harbors bacteria, protects that bacteria from cleaning agents, and then releases those bacteria back into the water, potentially causing severe health issues.

Knowing the make-up of your water is key to developing both an effective antibiotic free treatment program, and a water sanitization program. A high iron content can nourish E. coli bacteria. Sulfur can be broken down by bacteria to create hydrogen sulfide gas, which is extremely corrosive to both equipment and livestock. Knowing the contents of the water can help to make informed decisions about using vitamins and minerals. Vitamin additives encourage growth of micro-organisms in the water, and mineral additives (depending on the chemical make-up of the water) can result in mineral build ups and blockages within the line or eroded drinker parts leading to leaky drinkers.

Knowing what's in the water is the first step. Equally as important is knowing how much bacteria are actually inside the watering system.

Doing a drip sample gives us a vague idea. It's a representation of how much bacteria are being released into the water, but it doesn't tell us how much bacteria are living in the line itself. By swabbing the inside of the line, we can test the biofilm to get a better idea of how much of it is present.

Mary Scanting and ***Dr. Susan Watkins*** of ***The University of Arkansas*** have outlined the swabbing procedure step-by-step, and we share it with you here:

1. Shut the water off to the water line being tested.

2. Remove the cap from the end of the water line or detach the drain hose from the end of the line and allow excess water to drain out so the sponge will be absorbing biofilm and not just water. If a valve cap is present, remove it. Do not sample through the valve cap as it will not be a representative sample. Sample as close as possible to the standpipe.

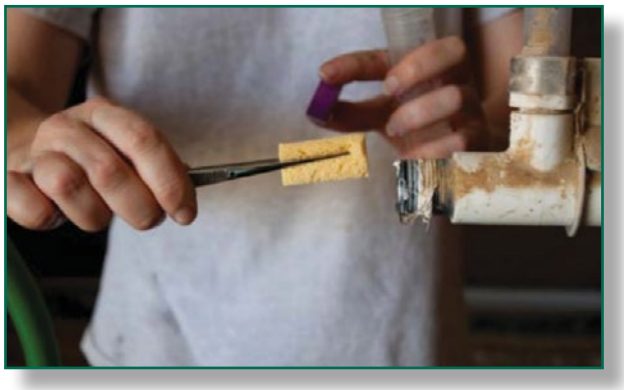
3. Wipe off the outside threads of the water line with 91% alcohol in case your sponge brushes against them when you swab.

4. Wipe down a pair of extra-long tweezers (these need to be 6 to 8 inches long) with alcohol or dip in alcohol. Use a flame starter to burn off alcohol and sterilize tweezers.

5. Remove the cap of the swab vial while being extremely cautious not to touch the edge of the vial or the inside of the cap against anything.

6. Put the sterilized tweezers into the vial and grasp the sponge. Push the sponge against the inside of the vial and turn to squeeze out the excess moisture. Removing the sponge.

7. Remove the sponge from the vial and insert into the end of the open pipe, being extremely careful not to touch anything as the sponge enters the pipe.



Inserting the sponge.

8. Insert the sponge at least 4 inches into the pipe, twisting it as you go in and back out. Taking the sample. Swabbing water lines can be done for any type of line, but just make sure to remove any parts that will prevent you from getting the sponge into the true water line.

Taking the sample.

ABF/NAE Water Line Care *(continued)*

9. Replace the sponge into the BPD or sterile water in the 50 ml vial and tightly close the cap to prevent leakage. Vigorously shake the vial to release an even number of bacteria from the sponge into the BPD solution. Carefully label the sample with a waterproof marker and then store the sample at refrigeration temperature (40° - 45°F), even in transport until the sample arrives at the lab. For best results, samples should be submitted to the lab within 24 to 48 hours. Repeat this procedure for each testing site, being sure to sterilize the tweezers before using them for each sponge.

Your local Extension can run the tests for you and provide a report. Using the information provided, you can start to develop a program that will improve the water quality in the poultry house, and the performance quality of the birds.

Special thanks to The University of Arkansas.

V-Fan: A Powerful Fan With Powerful Electrical Savings... And Lots of Power

by Sean Francey

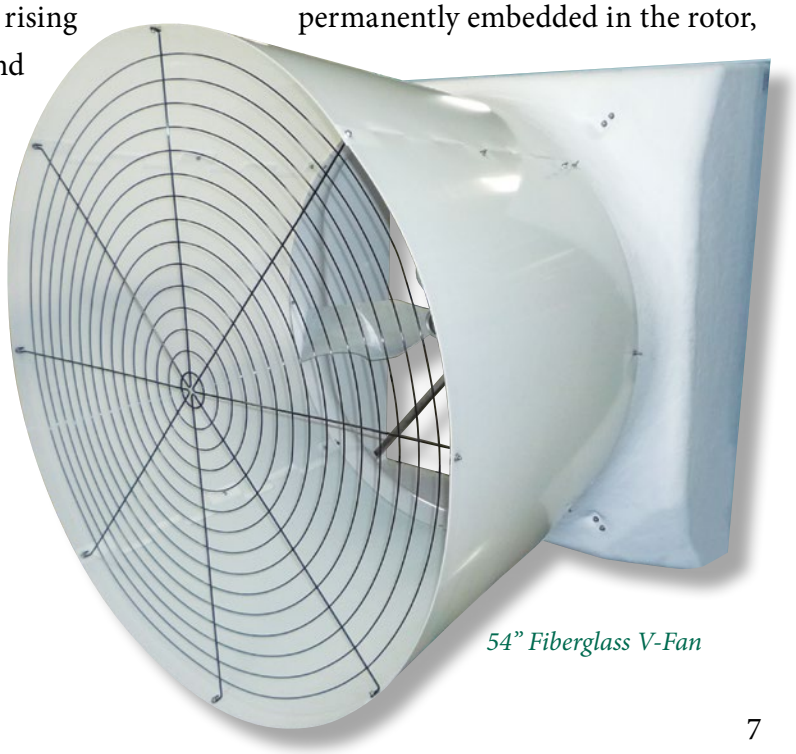
The new VAL-CO® V-Fan™ will change the way you think about ventilation. The V-Fan leaves behind the common pitfalls associated with current variable fans and takes the concept to the next level by providing high-efficiency, high-torque output at very low speeds while providing high-capacity output at full speed.

Variable speed fans are nothing new in the livestock industry. Voltage-regulated fans are commonly used in hog houses for pit ventilation and VFD-controlled fans have been used in poultry barns for years. But they have always suffered from significantly high costs (VFD-controlled AC fans), poor efficiency at low speeds (Voltage-controlled fans), and poor performance if ever a breezy day occurred, slowing or stalling out fans facing the wind.

Couple this with rising electrical rates and more attention being paid to ventilation in an era of tight, solid-sided houses and ABF/NAE production conditions, and the need for something new becomes clear.

Enter the V-Fan.

Unlike standard induction-style fan motors, the V-Fan utilizes a special motor with rare-earth magnets permanently embedded in the rotor,



54" Fiberglass V-Fan

HOT
New Product

Interested in Saving $$$?

Available in Fiberglass or Galvanized housings

Introducing the Versatile, Variable-Speed V-Fan™

Why you need it:

- Delivers up to 35,000 CFM[1] at top speeds
- Provides up to 62.7 CFM/Watt[2] at low speeds
- Direct drive motor means less maintenance

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1 - BESS #19475 @ 0.10" WC 2 - BESS #19461 @ 0.05" WC

VAL-CO

improving efficiency at all speeds as no power is lost generating a magnetic field to turn the shaft, and preventing most effects of prevailing winds by maintaining high-torque even at low speeds. Full voltage is applied across the full range of speeds, also helping the motor perform at its best.

Beyond the exceptional performance, using this style of magnet-embedded motor in poultry houses has shown electrical savings of more than 50% versus standard, on-off type exhaust fans[1] across all seasons.

Fans can account for almost 70% of the electrical consumption in a modern tunnel barn. Rural electric rates in the US range from $0.08 to $0.14 per kWh. The electrical savings of the V-Fan can pay back the investment in as little as 18 months when used to replace the minimum vent fans, commonly[2] running in speed range efficiencies of 62.7 CFM/W. When more fans are upgraded to the VAL-CO V-Fan for full tunnel ventilation the 7-year electrical savings over traditional fans on a standard 50' x 500' can be as high as $7,700[3].

To learn more about the V-Fan, visit us online or contact your local sales representative.

[1] https://www.poultryventilation.com/node/5116

[2] BESS lab test # 19461

[3] Assuming 12 cents/kWh and ten V-Fans

V-Fan™ Sample Performance Numbers

The following is just a sample of what the V-Fan is capable of. There are many different models of V-Fan available. Contact your local sales representative or VAL-CO dealer to see which is right for you!

54" Galvanized V-Fan™ - Model 954705-3 **BESS #: 19461**

Shutter: Aluminum **Input Phase, Voltage & Frequency: 3PH, 230V, 60 Hz**

	RPM	0.05" SP		0.10" SP		0.15" SP		0.20" SP	
		CFM	CFM/WATT	CFM	CFM/WATT	CFM	CFM/WATT	CFM	CFM/WATT
50 HZ, Full Speed	600	33400	21.1	32100	19.0	30700	17.6	29100	16.4
40 HZ	480	26600	29.8	24800	27.0	22500	25.0	19500	19.7
30 HZ	360	18600	57.2	15300	36.4	6200	14.1		
25 HZ	300	13800	62.7	4000	16.9				

54" Fiberglass V-Fan™ - Model 954230-1 **BESS #: 19475**

Shutter: Aluminum **Input Phase, Voltage & Frequency: 1PH, 230V, 60 Hz**

	RPM	0.05" SP		0.10" SP		0.15" SP		0.20" SP	
		CFM	CFM/WATT	CFM	CFM/WATT	CFM	CFM/WATT	CFM	CFM/WATT
52.5 HZ*, Full Speed	632	36500	19.1	35000	17.4	33400	16.1	31500	14.6
50 HZ	602	34700	20.8	33100	19.1	31300	17.3	29300	15.7
40 HZ	482	27000	30.6	24700	26.2	22200	22.9	19200	18.9
30 HZ	361	18300	46.4	14400	33.9	5100	10.5		
25 HZ	302	13400	53.8						

** - estimated*

Grower Spotlight

Kim and Rodney Tarlton

Kim and Rodney Tarlton have a long history with agriculture. In 1986, Kim's family started a poultry farm with Holly Farms, which later became Tyson Foods. Similarly, Rodney grew up farming row crops and soybeans. In 2011, wanting to retire and start a new pursuit, they started their own poultry business with Tyson. Based in Monroe, North Carolina, Kim and Rodney operate a four-house farm outfitted with the VAL-CO package of feeders, feed bins and fill systems, drinkers, and heaters.

Kim is the primary caretaker of the birds. With a keen eye for detail, she watches the birds' behavior and monitors the controller to understand the house conditions. She watches the birds eating and drinking habits and adjusts feed times and water line height to the birds' preferences.

World Famous VAL-CO Drinker

About five years ago, Kim and Rodney attended a course on minimum ventilation offered by the University of Georgia. In the class, they learned to focus on static pressure and air flow through the house. They applied some of their new knowledge – checking inlet opening sizes and static pressure to ensure incoming air reaches the center of the house – and saw an immediate improvement in the house conditions. "We learned how to adjust the pitch of that air coming in and get it into the center of the house to improve that efficiency. It improved so much we had gas company come by once to check our meter because we were using such a smaller volume of gas, and they wanted to know what we were doing."

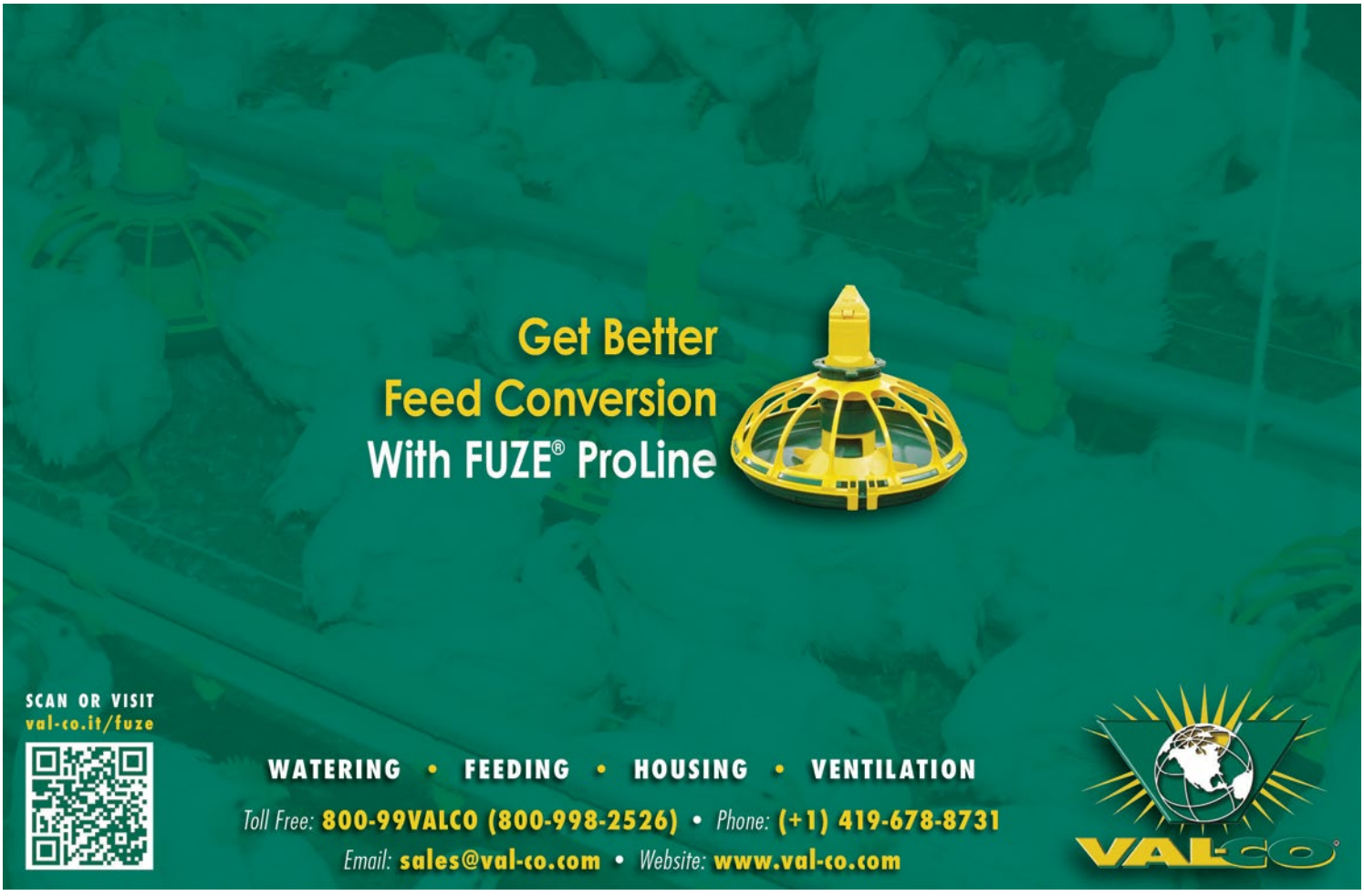
Their close and careful management has really paid off. Their consistent feed conversion rates landed them in the top five finishes every flock in 2019. This success added up. They raised the most pounds of chicken for the least cost and were honored at Tyson's Fall Banquet as the 'Grower of the Year.'

Despite careful management, problems can still arise. "We had

some problems with the floors getting wet the last two flocks. We went on the website and called the company and were put in contact with Jacob, the representative in our area. He was on the farm in about two days and I can't say enough good things about Jacob and VAL-CO. He shared information with us and helped us pinpoint the problem. We thought maybe with seven-year-old drinkers they should be tested for wear, and potentially replaced. With Jacob's help, we found out that we were running too much pressure in the line; we dropped the pressure and haven't had a problem since."

Kim and Rodney are exceptional poultry farmers. Their meticulous

management has made them successful, and their ambition to expand their knowledge and improve their growing will ensure they continue to be. If they could offer their advice to other growers, it would be this: know your barn and your birds, ask for help if you need it. "Spend time in the house with the birds and pay close attention to the details. You can't just check it once or twice a day and call it good enough. Make the changes as they present themselves to you. The birds will tell you what they need. If you have any problems, ask for help right away. If you have a problem like we did, get in touch with VAL-CO customer service. I was very impressed and very satisfied with the results I got. I was offered the customer service I always tried to give, and I can't say enough good things about that."



The Practice & Purpose of Minimum Ventilation

by Ericka Mongeau

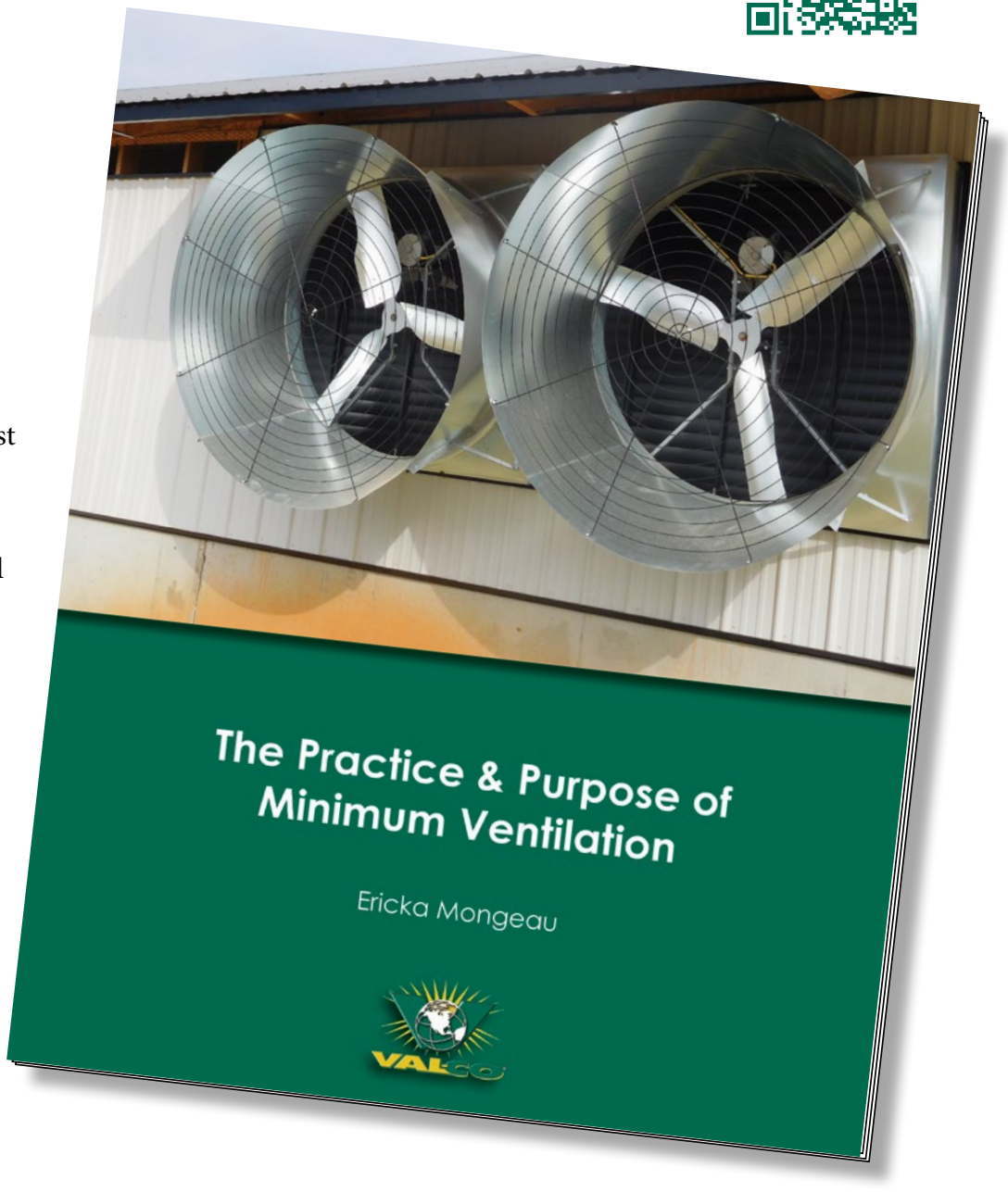
Ventilating poultry barns during cold winter months is a delicate balancing act of preserving warmth and expelling moisture. It's imperative that heat is retained in the barn so that fuel costs stay low during the cold-weather season; however, heaters and livestock both add abundant moisture and toxic fumes to the environment. There are devastating and costly repercussions to not eliminating those environmental stressors.

Minimum ventilation is used to master this balancing act. Minimum ventilation is the lowest level of ventilation needed to maintain the best atmosphere in the barn at the lowest economical cost. Its goal is to maintain humidity and temperature levels while controlling ammonia and dust so that the environment meets the air quality standards required for animal health.

There are many factors that work in concert during minimum ventilation. Litter quality and air quality are both influenced by house moisture, water usage and consumption, heat balance, and air movement.

Read more about the practice and purpose of minimum ventilation in this paper and use our Minimum Ventilation Audit Sheet *(right page)* to take inventory of how your house is performing.

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



Seasonal Audit
Minimum Ventilation

Date: _____
Farm Name: _____
House Number: _____

Outside temperature: _____
Inside temperature: _____
Set point: _____
Min. Vent Cycle Time: ____ sec/____ min

Static Pressure: Actual: _____ Target: 0.08"-0.12" WC
Rel. Humidity: Actual: _____ Target: 50%-60%
Bird Age: _____days

Litter Quality:
Under drinkers: Wet Ideal Dry
At sidewalls: Wet Ideal Dry

Air Quality:
Visibility: Hazy Clear Dusty
Ammonia smell: Yes No _____ppm

Bird Distribution: Huddled Even Crowding walls
Bird Behavior: Quiet Active Agitated

Tools Needed:
1. IR thermometer
2. Kestrel - with anemometer & Rh sensor
3. Ammonia Sensor

Exhaust Fans:
- ☐ Bearings greased.
- ☐ Belt wear checked.
- ☐ Belt tensioner adjusted properly.
- ☐ Fans/grills/shutters cleaned
- ☐ Shutters open/close properly.
- ☐ Dampers open/close properly.

Inlets:
- ☐ Average airspeed. Use Kestrel.
  Actual:_____ Target: 800-1000ft/min.
- ☐ Open same distance.
- ☐ Close fully.
- ☐ Condensation? Yes No
- ☐ Cables and pulleys intact. Clear of obstacles. Turn freely.

Circulation Fans:
- ☐ Fan and guard screen clean.
- ☐ All run.

Heaters: Brooders Tube Heat
- ☐ Burns correctly.
  Bluish/clear flame, not yellow or orange.
- ☐ Litter temperature directly under heaters. Use IR thermometer.
  Actual:_____ Target: 95°-115°F

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In The Spotlight

Employees

Name:
Jacob Caviness

Position:
Territory Sales Manager

Where were you born? Pinehurst NC

Hobbies: Hunting, camping, and traveling

Favorite family tradition: Yearly beach trip to Cherry Grove, SC

First Job: Farm hand for local farmer

Biggest pet peeve: Clutter

Describe yourself in 5 words: Christian, Honest, Love to laugh

If you were an animal, what would you be?
A wolf – GO PACK!!!!

If you could share a meal with anyone, living or dead, who would it be and why?
My Grandma Rachel, she used to raise broiler chickens and would always say, "Those college kids (service techs) come out here trying to tell me how to raise my chickens, and don't know squat." My first job was a broiler service tech and I would love to sit and talk to her about it. She was a wise, Christian woman who taught me how to work and respect others.

What changes have you seen in your years in the industry?
Initial reaction: "Oh Lord, I have seen a million." My top 3 would be:

1. Automation in houses
2. Genetics of the birds (daily rate of gain tremendously higher to get to target weight)
3. Farm size has grown from 2 houses to as many as 16

What technology do you see coming in the industry?
I would like to see more technology in the controllers for better day to day data analysis of what in the environment affects feed conversion and weights.

What excites you about your work and makes it easy for you to come to everyday?
Bridging the gap between farmers and poultry companies with the best possible equipment so everyone can have the most gain for their efforts.

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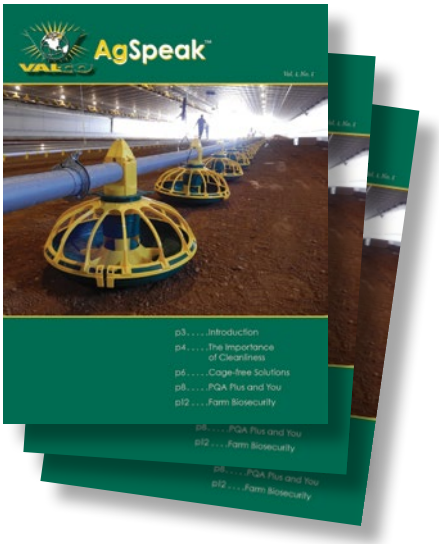

Name: _____

Company: _____

Address: _____

City: _____ State: _____ Zip: _____

Email: _____ Phone: _____

Products

V-Fan™

VAL-CO® has stepped up to help achieve the ideal environment with the introduction of the versatile, highly efficient, variable speed **V-Fan**.

Older-style Triac-controlled variable speed fans would become less efficient at lower speeds, thereby making the CFM/Watt worse. The V-Fan motor is not only VFD-driven, but it's also a PMAC motor, yielding greater efficiency than induction motors. The V-Fan delivers up to 35,000 CFM at top speeds and provides up to 62.7 CFM/Watt at low speeds, which is where this fan really shines!

The V-Fan is direct drive, meaning there are no belts to maintain

or bearings to grease. The VFD is located directly on the fan and pre-tuned at the factory, so no adjustments are needed. It is IP66 rated to withstand the harsh environments of agricultural production houses. The VAL-CO V-Fan will change the way you look at ventilation!

Reinforced Collar

VAL-CO has released a new **Reinforced Collar** for greater strength and durability.

Animal feeds are supposed to be a free-flowing material that moves smoothly through the bin, to the boot, to be carried away through the auger. However, any introduction of moisture in the bin can result in bridging, where feed clumps together against the walls of the bin, eventually to give way to its own weight. The result is a forceful impact that can damage the collar. Too great or too frequent an impact can damage the bin collar and – eventually – could cause the boot to crack, leading to feed spills and the headaches that come with them.

To combat this problem, VAL-CO has released a new reinforced collar that will come standard with all bins 9' – 3 Ring and larger. The new collar is made of 10-gauge steel to strengthen the boot attachment point and reduce the risk of damage.

BridgeBuster™

Our innovative, new **BridgeBuster** bin agitation mechanism helps to prevent bridging in your feed bins. Unlike other items on the market, the BridgeBuster agitates the entire bin, not just the collar. Another advantage is that there is nothing to mount inside the bin. The BridgeBuster installs on one leg of your feed bin and securely bolts to your feed bin pad. Keep your feed flowing with BridgeBuster!

VAL-CO Products are proudly available at our 2019-2020 Titanium Dealers

Marydel Ag Supply

Marydel, DE
302-343-9541 • marydelag.com

Poultry Supply LLC

Pocomoke City, MD
443-437-7285 • poultry-supply-llc-md.hub.biz

Zeiset Equipment

Manheim, PA
717-665-4056 • zeisetequip.com

Premier Ag Supply

Russellville, KY
270-717-1149 • premieragsupply.com

Find a dealer near you
val-co.it/dealer

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