



# AgSpeak™

Vol. 8, No. 1



- p4 . . . . Water Usage  
and Consumption
- p8 . . . . Proposition 12 Ruling
- p10 . . . . Grower Spotlight
- p13 . . . . Observing  
Their Environment



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Rising interest rates have made it more difficult for producers to justify investments to improve and grow. Higher interest rates mean that some investments that might have had an acceptable cash flow and payback in past years are no longer viable.

But those facts do not mean that there are no wise investments to be made. The investments that still make sense are those with relatively fast paybacks. When payback can be achieved in three years, interest rates do not affect cash flow as they would with a seven-year payback.

For poultry and swine producers, that usually means upgrades still make sense even when new construction might not. Spending money on improving the equipment that waters, feeds, and ventilates animal production facilities can have very fast paybacks.

Being selective in choosing which investments to pursue is the key to success. VAL-CO products are designed and built to provide the value and improved animal performance that will reward producers with higher profitability.

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**Phil Risser**

*President & CEO*

Valco Industries, Inc.



# Flock Management



## Water Usage and Consumption

by *Ericka Mongeau*

Water is an important nutrient that directly affects a flock's health and wellbeing. Birds must have adequate access to clean water for optimal consumption. It's important to understand the difference between water usage and water consumption. Water usage is what goes through the water meter. It measures the water used for cooling systems, as well as the watering systems, but it doesn't measure the exact amount consumed by the birds. Water consumption is what goes through the birds and is used for digestion and growth. Because it is impossible to know how much the birds are actually consuming, it's imperative that the water is as consumable as possible.

First and foremost, there needs to be enough water supplied to the farm, whether from a well or from a public water source. Water supplies birds, but also cool cells, foggers, or sprinkler systems, so it is imperative that there is enough water, especially in hot weather.

Integrators generally have guidelines on how many gallons per minute the water supply must deliver. To know if you are meeting that requirement, you should know the size of the supply line from the well to the chicken house, and the size of the pump in the bottom of the well.

During peak season, houses require about 3 gallons per minute for drinking and 9 gallons per minute

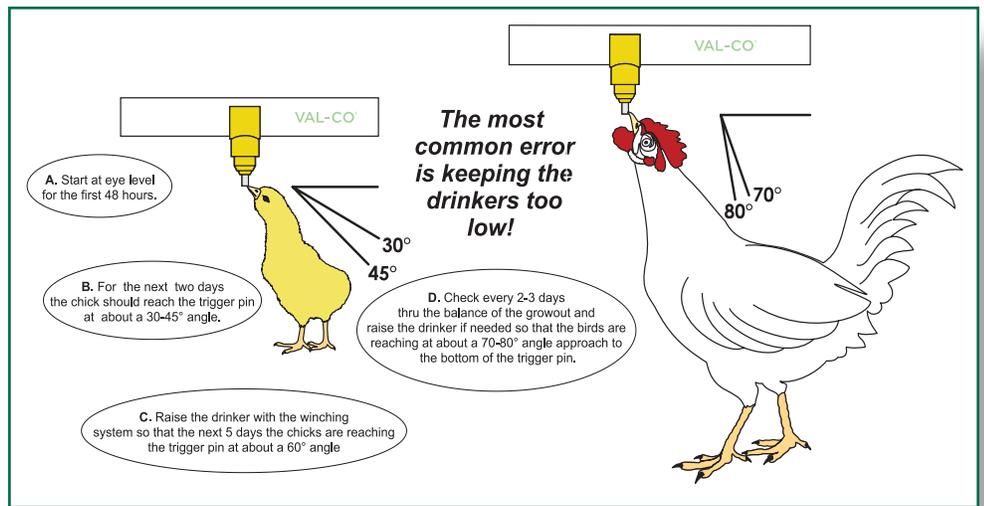
for cooling. A 2" supply line can move about 48-50 gallons per minute. Check that supply lines are sized appropriately for the amount of water that is needed and update them accordingly.

Once the supply is covered, we can start to measure usage and consumption. Water usage is what goes through the water meter. Digital water meters connected to controllers can monitor that usage on both a 24-hour basis, and in allotted time increments during the day, to help paint a clear picture of water usage and consumption by the birds.

Developing usage patterns specific to your farm and your equipment can alert you early on to potential

problems that could cost you in the end. Water usage by the cooling system may remain relatively steady throughout warmer months, but usage by the birds may increase. There are critical high demand periods, such as when lights come on or sprinklers are running, that results in spikes of higher water usage. Overall usage should increase incrementally every few days. If usage remains unchanged, try to identify the cause. Are drinkers lines the right height? Are filters or drinkers clogged? Have there been changes in day length, light intensity, or illnesses?

Factors that may affect water consumption include bird age, environmental temperature, feeding and lighting programs, but most importantly, general maintenance. Birds must have constant, easy access to water, whenever they want it, which requires growers to keep the water lines clean, adjust their height and ensure the lines are level and water is flowing freely.



As birds age they consume more water, but overall consumption relative to bodyweight decreases. Drinker line height needs to be examined and adjusted almost daily. Today's broilers grow exceptionally fast, and growers can't afford to get behind with proper watering. The easiest way to determine if the height is suitable is to watch the birds. If they must sit to drink, it is too low. If they must stretch their necks straight up, stand on their toes, or hop, the line is too high.

Here are some age guidelines to help you make appropriate adjustments:

- *Day-old chicks – drinkers should be just above eye level. Remember to have the barn lit well enough that the chicks are drawn to the shiny metal pin, so that they learn to drink from the nipples.*
- *2 - 3 days – raise the lines so chicks drink at a 30-45° angle.*
- *4 - 10 days – raise lines so birds are reaching at a 60° angle.*
- *10 days through grow out – check frequently that birds are reaching at a 70 - 80° angle towards the bottom of the trigger pin.*



If the environmental temperature is high, birds will consume more water, up to double or even triple the amount when heat stress occurs, up to 7% for each degree F increase in temperature. Water temperature can improve the performance of broilers and layers if the water temperature is below the body temperature of the bird.

During the hottest parts of the summer, flushing replaces the warmer water in the lines with fresher, cooler water. It encourages birds to drink more frequently and helps them regulate their body temperature more effectively.

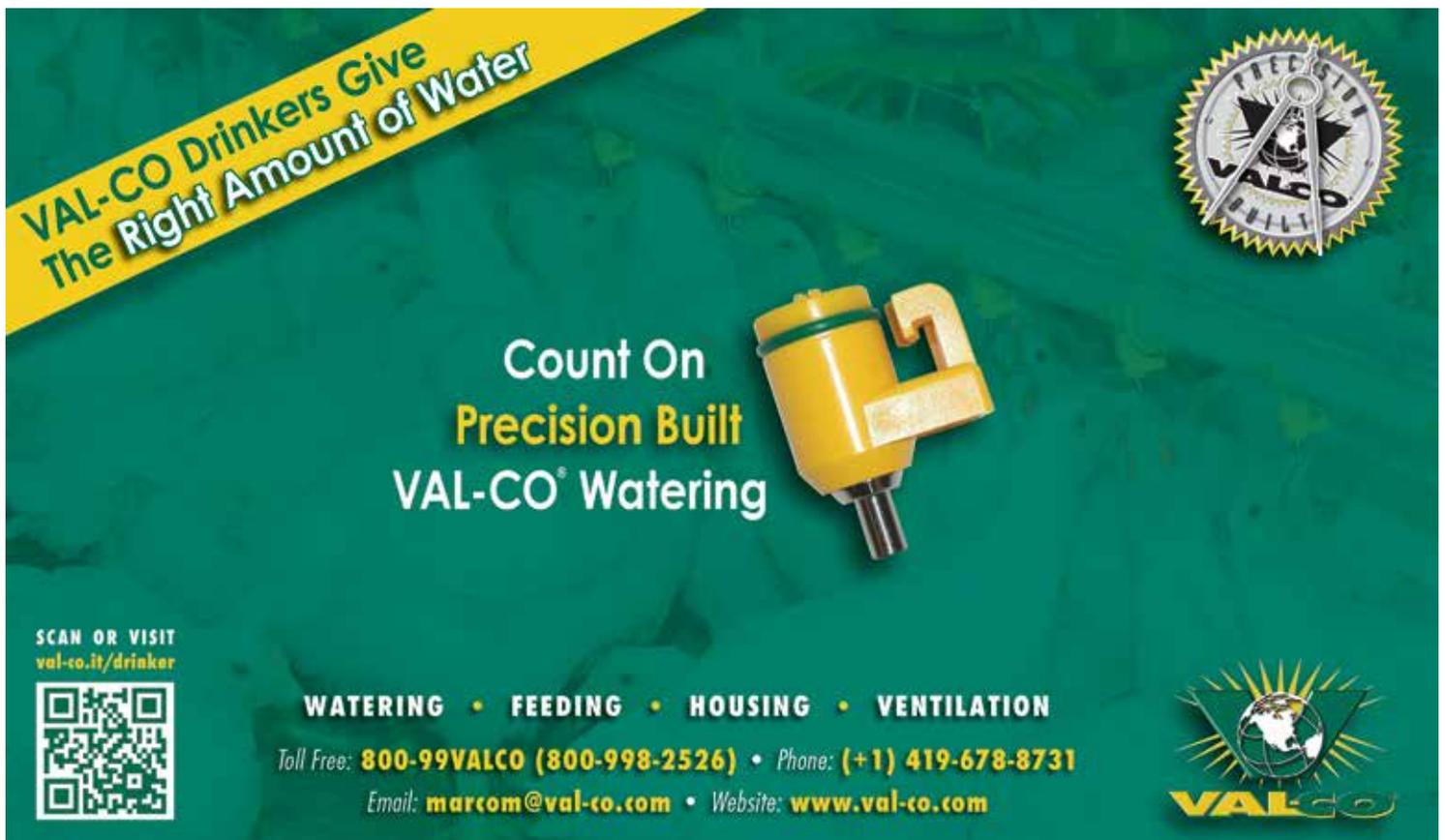
Lighting programs also impact water consumption as houses with a lighting program see peak water consumption just after the lights

come on and again to prior to the lights going out. This places a heavy demand on water pressure and can mean some birds are unable to gain access to a sufficient supply of water. On farms with multiple sheds, staggering the time when lights are on can reduce the sudden demand from the whole flock.

Water and feed consumption rates are interdependent. Reduced water intake leads to reduced feed intake and therefore reduced weight gain. If water is cool and clean and in the appropriate pH range, nipples are not prone to leaking and at the proper height for the birds' age, we can safely track water usage through the meter and use its indications as a guideline for bird consumption.

Chickens prefer water with a pH of 6.0 to 6.8 but can tolerate a pH range of 4 to 8. A pH of less than 6 has been shown to negatively affect chicken performance, and water with a pH of over 8 may cause chickens to reduce their water consumption, leading to a negative effect on feed consumption and bird performance.

Flushing will help clean out biofilms from the watering lines, too. Biofilms can harbor bacteria that cause severe illnesses, and limiting their emergence means birds are more productive. Regular flushing helps to remove dirt or debris from the water lines and keep the nipple drinkers from being blocked. This ensures all your birds have access to all the water they need to turn feed into food. 



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## Supreme Court Upholds California's Prop 12

On May 11, 2023, the Supreme Court upheld California's Proposition 12, a landmark animal welfare measure that bans the sale of pork from sows that are confined in small spaces. The 5-4 decision was a victory for animal welfare groups and a setback for the pork industry.

In 2018, California voters passed Prop 12 (also known as the Farm Animal Confinement Initiative) which is a ballot initiative to provide more space for farmed animals, in particular laying hens, breeding sows and veal calves in California. Prop 12's provisions went into effect January 1, 2022 and provisions for pork were on hold and finalized on September 1, 2022, to come into effect July 1, 2023. Prop 12 gives much more specific

provisions, including minimum square footage requirements but also a sales ban against noncompliant animal products from out of state. Prop 12 would affect nearly one million pigs and 40 million egg-laying hens each year.

Since it was passed in 2018, Prop 12 has been opposed by some in the industry including the US pork industry. California has very little pork production, but the largest pork market of any state (13-15% of the total US market). Prop 12 mostly applies to pork producers outside of California's borders, though they will still need to retrofit barns in order to sell their product in California. However, nine other states have already passed laws requiring pork

producers to phase out gestation crates. Two of the largest US pork companies, Tyson Foods and Hormel have agreed to comply with Prop 12. Many countries have banned gestation crates including the United Kingdom, Canada, Switzerland and Sweden.

The National Pork Producers Council (NPPC) strongly opposes Prop 12 as they believe it to be unconstitutional as the ban on sale of out-of-state pork is a restraint of interstate commerce as California is seeking to impose its regulations on farms located outside of the state. The NPPC also states it imposes arbitrary standards that lack scientific, technical or agricultural basis. Additionally the NPPC claims it will increase food prices and disrupt supply chains. The cost of

changes to comply with Prop 12 is estimated to cost \$3500/sow which will likely pass on to consumers. The Prop 12 law also threatens producers' livelihoods as the increase in financial investments and increase in standards pose challenges for how producers operate. Those in the Pork industry argue that Prop 12 lacked consultation with experts in the industry such as producers or veterinarians, but was driven by a "Get out the Vote" text campaign by volunteers for The Humane League in San Francisco, Los Angeles and San Diego. They sent 1.375 million text messages to voters throughout the state, and collected more than 660,000 signatures.

### Prop 12 and chickens:

Prop 12 allows egg laying hens, which includes chickens, turkeys, ducks, geese and guinea fowl, litter bedding and space. Flooring is required to be bedded with litter such as sawdust, straw, shavings, rather than just bare mesh. Tiered housing must allow perch and roosting space above the ground and birds must have a minimum of one square foot of floor space each. In houses with only one level, birds are required to have one and a half square feet of floor space. Those who fail to implement the cage specifications would be charged with misdemeanors, with fines up to \$1000 by the California Department of Food and Agriculture. California's older animal welfare law only covered shell eggs, but Prop 12 also covers

liquid eggs (used for restaurants, cafeterias and food manufacturers).

### Prop 12 and pigs:

In the US sows are often confined in gestation crates. Prop 12 dictates sows must have 24 square feet of floor space each, which is more than the industry's typical crate-free space allotment of 16 to 18 square feet. It also prohibits breeding pens. Prop 12 applies to any uncooked pork solid.

### Prop 12 and cows:

Calves raised for veal must have at least 43 square feet of floor space.

Complying with Prop 12 for animals in industrial farms will mean that barns will need to be retrofitted to change the way animals are raised. The cost of which will invariably be passed down to consumers. There may be an increase in price of bacon and other pork products in California, and there may

be shortages until the industry stabilizes. While the pork industry has been fighting the new law, those in the poultry industry have largely complied. Egg producers have largely complied with the Californian law changes and United Egg Producers, an industry traded association, have said "UEP's farmer-members support all types of hen housing and will comply with California's new law, when implemented."

The Supreme Court's decision is a significant victory for animal welfare and a setback for the pork industry, which has argued that Prop 12 will raise the cost of pork and put farmers out of business. The NPPC has said that it is "disappointed" with the decision and that it is "evaluating its options." It remains to be seen how the decision will play out in the long run, but it is clear that Prop 12 has had a major impact on the animal agriculture industry. 



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## Grower Spotlight

### Mark Strouth

From the late 1980s onward, Mark's father and brothers started a legacy of family farming, and they haven't given it up yet. Somewhere in the windy plains of Iowa, Mark and his three brothers own and operate a menagerie of swine barns that they have collected over the years. Around ten houses in total are operational at any given time, all growing for Smithfield and housing finishing hogs.

Mark has been in the industry so long that he has had a front row seat to the innovations of the industry. He started out using the Ventium controllers and was so well versed in their function that he was the on-call, go-to guy when



anyone in the area had an issue with one. Today, he uses the Ventra XT, a great grandchild of the Ventium control. "I just love the XT. It has the same brain as the Ventium it's easy to navigate and works great with ventilating natural barns."

He's also seen several generations of the VAL-CO Chimney, with the only issue ever being that bird nets were originally installed wrong by the dealer. A simple fix, sure enough. He's seen the fans perform for many years, and rarely has had to change out motors due to a failure, they were simply old and losing power. And bulk bins have been pretty standard over the years, but small tweaks make all the difference between clean dry feed and a clumpy mess.

Mark has seen every kind of farm design out there. Mark has observed pigs and their preferences and noticed that many prefer partial slats because they can get dirty, and pigs love being dirty. But he prefers full slat houses, because the floors are cleaner, the pigs are cleaner, and the barn is easier to clean at the end of a rotation. He's made similar comparisons about ventilation schemes. Tunnel ventilated houses have less fluctuation in temperature, especially in the worst of winter. The pigs in the naturally ventilated houses are healthier overall, though, and seem happier and less stressed. "There is good in every barn, bad in every barn; good in every ventilation set up, and bad in every ventilation set up. Really, it comes down to maintenance."

The biggest change he has seen in the industry is the focus on biosecurity practices. Smithfield introduced wash-in wash-out on all of their facilities and required design changes to improve the flow of pigs through the house and traffic on the farm. "Those changes for biosecurity were really expensive, and they can be frustrating to wash in and out every day, but it has made moving pigs in



and out of the farm really simple and removed some of the stress from sorting and selling.”

In addition to raising pigs, he and his three brothers also farm 250 acres of row crops. His favorite thing about raising pigs? “It’s farming. I thought I wanted to be an office guy. I went to college for accounting, but I kept coming back to farming. I came back to help Dad plant crops. I came back to help move pigs. And when I was ready to come home to stay, we found an acreage, built some more pig barns, and the rest is history.”



*Mark (right) and Corey Shearer of Hog House Handyman of Sheldon, IA by Mark’s newly-installed VAL-CO bins*



## AI Vaccinations

The 2022 Avian Influenza pandemic has run rampant for more than a year now. It has killed more than 58 million birds to date. It has affected egg and meat prices dramatically and it is starting to feel like there is no end in sight.

The current means of control focus on higher impact biosecurity measures such as decreasing farm traffic, implementing vehicle washing, using foot baths and a variety of other forms of disinfection.

One thing that isn't being done: vaccination. Vaccination against H5N1 could possibly halt symptoms and transmission, but there are still some concerns about their use. Often vaccines become less effective

over time as the virus mutates. This would require ongoing vaccine development and implementation.

The primary concern in the United States is that vaccinations could hinder poultry exports to other countries and that those shipments might contain hidden infections.

Hidden infections are themselves a concern. Infected birds would be asymptomatic and remain in the food supply chain, potentially infecting other birds or even humans. This is even riskier if disinfection and biosecurity measures are not strictly maintained.

There are currently no approved vaccines in the US. A recent Dutch vaccine study looked at four AI

vaccines against highly pathogenic H5N1 Avian Influenza. Two of those trialed were found to be effective. Under lab conditions, the vaccines offered protection against symptoms and prevented the spread of the disease between birds.

The USDA has started testing potential poultry vaccinations. Though none are yet authorized for public use, we should hope to hear about their potential in the coming months.



# Observe. Don't Disturb.

By watching the birds, we can learn a lot about their comfort and the quality of the environment.

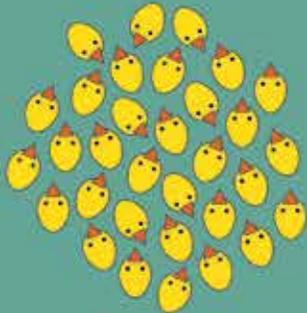
## Causes of Poor Distribution

- Sloped water lines, air locks, clogged nipples
- Uneven feed distribution
- Inefficient ventilation

## Effects of Poor Distribution

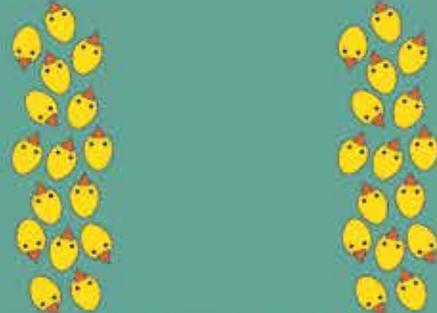
- Poor weight gains
- Increased mortality
- Decreased egg yield

### CLUMPED ❌



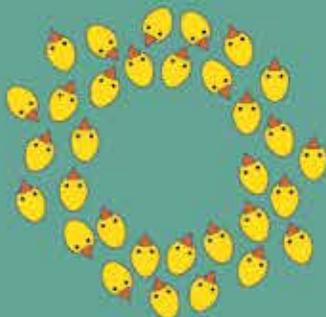
Cold?

### SIDEWALLS ❌



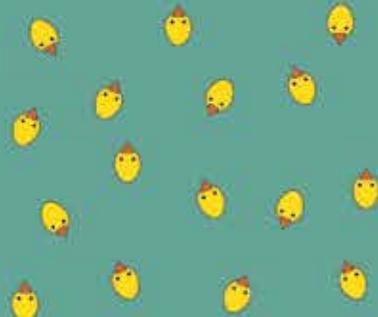
Heat stress?

### AVOIDING ❌



Hot spots?

### SPREAD ✓



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## **Solution: Perform routine maintenance**

- Clean shutters & fans
- Flush water lines
- Check levelness
- Monitor feed distribution
- Ensure adequate CFM and static pressure

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# In The Spotlight

## Employees



**Name:**

Wayne Kelling

**Position:**

Territory Sales Manager

**Where were you born?**

Brainerd, MN (Yes, the one made famous in the Fargo movie!)

**Hobbies:**

Skiing, fishing, bird hunting, working on hobby cars.

**Favorite family tradition:**

Lefse for all holidays.

**First Job:**

I worked for a farmer baling hay.

**Biggest pet peeve:**

Dandelions in my lawn.

**Favorite Quote:**

*“There is no such thing as luck. Merely preparedness meeting opportunity.”* – George S. Patton

**Describe yourself in 5 words:**

I’m one of a kind!

**If you were an animal, what would you be?**

Polar bear.

**If you could share a meal with anyone, living or dead, who would it be and why?**

Michelangelo. There are a few people in history that have become so famous that they are known only by one name. Michelangelo could have obtained this status for any one of

many reasons: Painting, sculpture, architecture or engineering.

**What changes have you seen in your years in the industry?**

The industry has moved from being labor intensive and inefficient to a mature industry driven by results and costs.

**What technology do you see coming in the industry?**

I only see technology becoming more prevalent in agriculture as workers will continue to become harder to find and the agriculture lifestyle seems to appeal to fewer people. The next step will be a robot to chore barns, pick floor eggs, and stir the litter.

**What excites you about your work and makes it easy for you to come to everyday?**

I like to help people solve problems and watch them succeed.



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## Products



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- **Central Greenhouse** - Cumberland, VA
- **Classic Poultry Equipment** - Resaca, GA
- **En-Ve Acres Ag Supply** - Owen, WI
- **Farm Depot** - Mt. Pleasant, TX
- **G & M Sales** - Goldsboro, NC
- **G & M Sales Co.** - Hiddenite, NC
- **Gilco Poultry Company** - Forest, MS
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- **Harkness Equipment** - Harriston, ON, Canada
- **Hog House Handyman** - Ashton, IA
- **Jack's Supply** - Biscoe, NC
- **Jones Poultry & Livestock Equipment** - Beulaville, NC
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- **Poultry Technical Services** - Gainesville, GA
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- **QC Supply** - Storm Lake, IA
- **Ridge Poultry & Livestock** - Ridge Spring, SC
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- **Skattum Confinement** - Luverne, MN
- **Taylorville Poultry** - Taylorville, MS
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