ChickenWhisperer magazine

# Disease and Prevention in Your Flock

Presented by DBC Ag Products®

Like all animals, your chickens are vulnerable to a number of illnesses. In this ebook, we'll look at some of the threats your flock may face and how you can best protect your chickens and the humans who come in contact with them.

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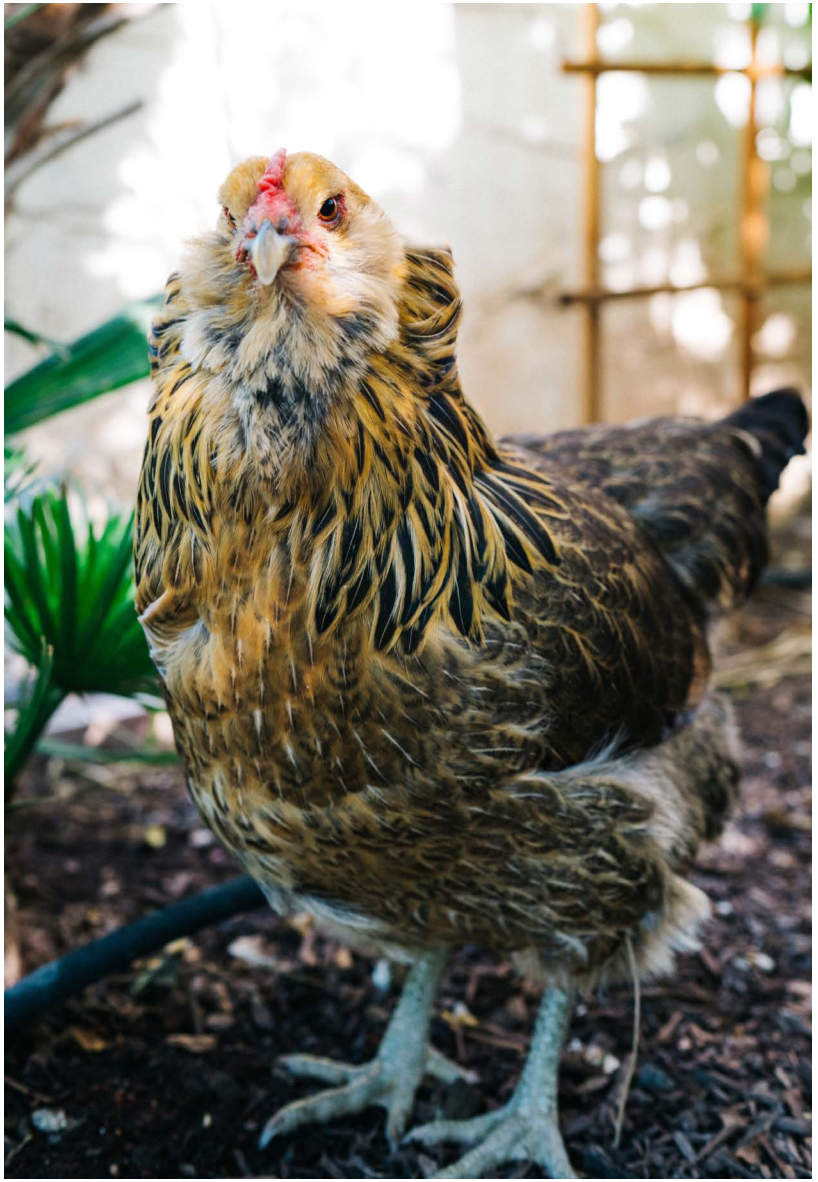
## VERY VIRULENT INFECTIOUS BURSAL DISEASE VIRUS

Infectious bursal disease (IBD), also known as Gumboro disease, is an acute, contagious viral infection that affects young chickens. IBD is characterized by subclinical—or unapparent—immunosuppression in chickens 3 weeks of age or older, and clinical—or apparent—disease in birds between 3 and 12 weeks of age.

The infectious bursal disease virus, IBDV, attacks the bursa of Fabricius, an organ near the cloaca that produces the immune cell type B-lymphocytes in sexually immature birds. The B-lymphocytes produced by the bursa are integral components of the immune system. In many ways, IBDV is the chicken equivalent of human immunodeficiency virus (HIV) in the way it attacks and disables the birds' immune systems, making them susceptible to a variety of other avian diseases.

IBD is characterized by increased mortality, inflammation and atrophy of the bursa, and hemorrhages in skeletal muscle. Because of these effects, IBD is one of the major causes of loss of young chickens due to sickness, death, and immunosuppression. IBDV is considered endemic to the United States with vaccination being a common practice in certain commercial flocks.



## Difference Between "Very Virulent" and "Normal" IBD

In December 2008, a more virulent strain of IBDV, commonly referred to as "very virulent IBDV," (vvIBDV) was identified in a commercial flock in Northern California. Since then, several other backyard and commercial facilities in California have had flocks affected by the same strain and other previously unknown strains of IBDV. More recently, in March 2014, a commercial layer flock in Washington State had a subtype of vvIBDV previously only seen in California. Prior to the December 2008 findings, vvIBDV had never been identified in North America but has been described in Asia, Africa, Europe, and South America.

Following the initial outbreak in 2008, California became the first state to undertake a voluntary surveillance effort to try to determine the geographical prevalence of vvIBDV. Based on data from 500 separate laboratory submissions, representing approximately 1,500 birds from over 200 commercial and backyard facilities throughout the state, these unique strains appear to be limited to a few commercial flocks on the North Coast of California and significantly more backyard and specialty poultry flocks in Northern and Central California. Genetic sequencing of targeted regions of the virus has revealed four distinct types of vvIBDV in California and Washington state.

## The Role of the Bursa of Fabricius

The bursa of Fabricius is a specialized organ near the cloaca that is unique to avian species and is responsible for producing some of the cells involved in a young bird's immune response against pathogens. The bursa disappears after approximately 18 weeks of age.

Since the IBD virus specifically attacks the bursa, when the bursa disappears, the virus loses its "home." While the virus has been identified in other parts of live chickens, it is believed to be in low, non-infectious levels. As a result, it is recommended that no selling or trading of birds under the age of 18 weeks should occur with properties that have or previously had flocks diagnosed with vvIBDV.

## Signs of vvIBLV

Signs of vvIBDV are typically seen in chickens less than 12 weeks of age. The time from infection to the onset of clinical signs is short—usually two to three days. Affected birds may be depressed, have ruffled feathers, suffer from diarrhea with blood-stained vents, become recumbent, and ultimately may die. The morbidity—or sickness rate—has been reported to be as high as 80 percent. In California, the mortality, or death rate, has been reported to be high in layers (5 to 30 percent) with lower numbers in broiler chickens (less than 1 percent).

The lower rates in California may be related to the use of vaccines in commercial flocks. Additionally, the lower mortality rates in broilers have been observed globally and are likely related to the different genetics of broilers as opposed to layers, much like a person might get sick when the person next to them doesn't, even though they were exposed to the same virus.

## Virus Transmission

Chickens 2 to 10 weeks of age that become infected with vvIBDV shed the virus in the feces. Viral shedding commences about 48 hours after infection and can continue for 14 to 16 days. Manure contaminated with the virus can be spread by people, equipment, water, and vehicles. There is no evidence to suggest that vvIBDV is transmitted from parent to offspring in the egg.

While vvIBDV has been noted in avian wildlife in other countries, contact with avian wildlife in North America is not currently believed to be a primary source of disease spread. The virus is extremely resistant to any type of cleaning and disinfection; this fact, combined with poor biosecurity measures and other high-risk behaviors by backyard poultry owners, is thought to contribute to the spread of wwIBDV from flock to flock.

One such high-risk behavior recently identified in California is the use of online "web trading," where people unknowingly buy and sell poultry from suspect sources. Composting of litter material does not appear to kill the virus. In one broiler facility that uses windrows and composts between the flocks, the virus has reappeared multiple times.

## Treatment and Prevention

Like many avian diseases, no drugs have been shown to reduce clinical signs or pathological changes associated with vvIBDV.

Due to lack of treatment and because this virus is so resistant to cleaning and disinfecting, the best course of action is to prevent the virus from ever making it onto your farm or into your birds in the first place. You can do this by adhering to strict biosecurity practices.

For prevention of vvIBDV, purchase chicks from commercial hatcheries—or feed-stores that purchase their chickens from commercial hatcheries—that are part of the National Poultry Improvement Program (NPIP). NPIP-certified hatcheries don't do active surveillance against vvIBDV or IBDV, but their biosecurity standards are helpful in preventing avian diseases. At the minimum, you'll receive chicks that are monitored for multiple diseases including avian influenza, mycoplasma, and Salmonella.

Vaccination appears to have benefits in mitigating mortality. With the low cost of vaccination, it may be beneficial to vaccinate flocks that are geographically close to facilities that have tested positive for IBDV or vvIBDV. However, accessing and using IBDV vaccines for non-commercial applications is challenging and not often practical.

The solution is work with your hatchery. Ask them to include IBD vaccines with their vaccination program. While there isn't currently a vaccine against vvIBDV, the IBDV vaccine offers some protection. It's not perfect; your birds can still be susceptible to IBD and vvIBD, but it can help. If unprotected, vvIBDV could kill half of an immature flock and leave the survivors more susceptible to other diseases.

Simple things can help stop the spread, too. For example, don't take chickens to auction, exhibits, fairs, or shows if they are less than 17 weeks of age and you have a history of deaths in the flock with diarrhea.

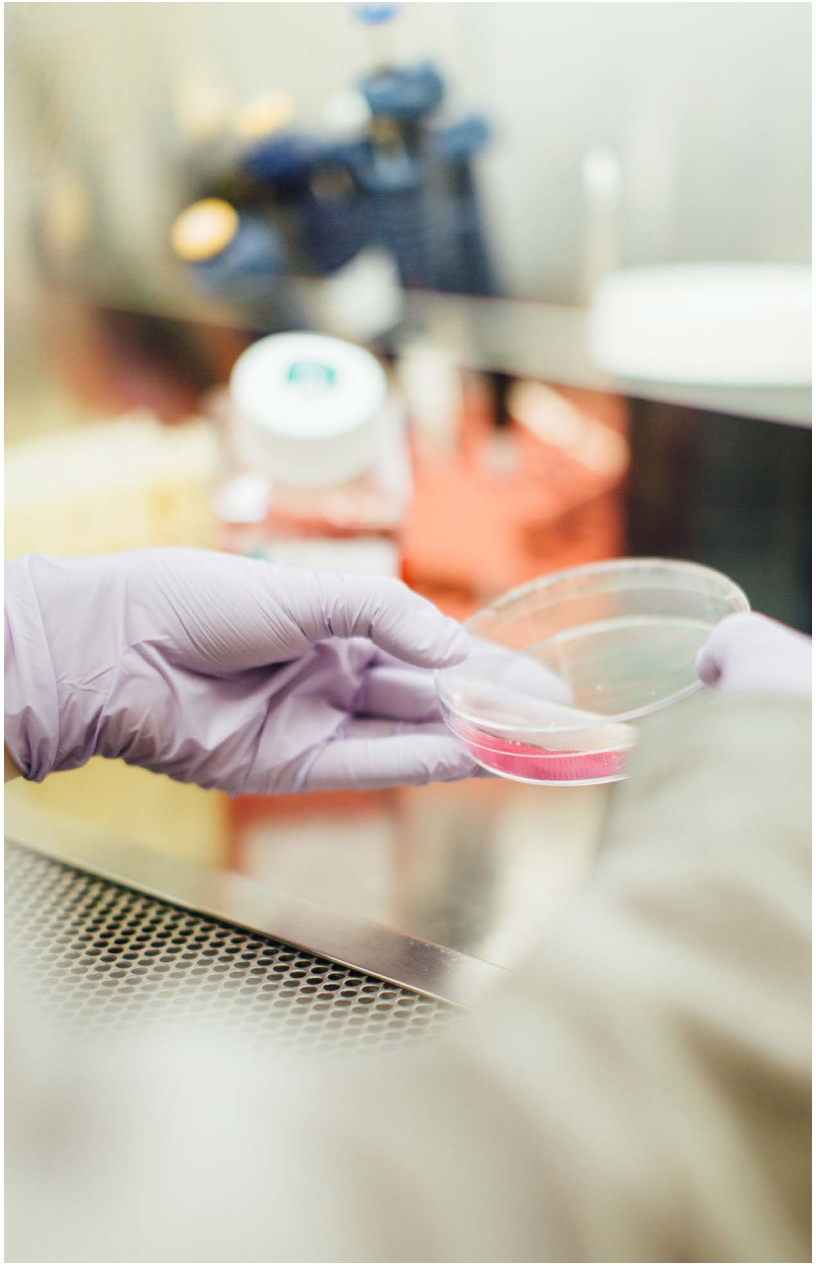
## How You Can Help Researchers

While IBDV is endemic to the United States, vvIBDV and its subtypes are more difficult to manage and pose a new threat to poultry health. In order to identify these new strains, we must actively look for them. Therefore, we need to expand our surveillance for vvIBDV throughout the U.S.

If you suspect that your birds may have vvIBDV based upon the clinical signs described above, contact your veterinarian or your state's diagnostic laboratory, which may do diagnostic work for free. Here in California, you can also contact me through UC Davis at mepitesky@ucdavis.edu regarding potential submissions to California.

Chickens that exhibit the typical signs or have died within the past 24 hours are preferred for laboratory diagnosis. Although currently the only diagnostic test is post mortem, UC Davis is looking into live-testing options.

The recovery and treatment of diseases can be a lengthy process, but taking steps to prevent an outbreak could save you time and money.



# A REVIEW IN BIOSECURITY

Biosecurity is a word we hear a lot these days when it comes to keeping our birds healthy and safe. The Cambridge Dictionary defines biosecurity as, "the methods that are used to stop a disease or infection from spreading from one person, animal, or place to others," and offers this example:

> *"Chicken farmers have strengthened biosecurity to prevent contamination from people who have visited live-bird markets."*

The mention of chicken farmers suggests that someone has taken notice of all of the efforts that chicken farmers and keepers have put into keeping their flocks healthy.

## Biosecurity Best Practices

When Department of Agriculture employees conduct NPIP or National Poultry Improvement Plan testing, which includes blood tests and throat swabs for avian influenza, they dress in a disposable top coat, disposable footwear, and rubber gloves to keep the flock safe from anything the workers may have come in contact with on another farm. Before they leave, they spray disinfectant on their vehicle tires to avoid spreading disease from one farm to the next.

## Biosecurity Best Practices CONT.

To keep your own flock healthy, follow these practices:

- Keep bird feeders for wild birds away from your chickens. Wild birds can carry diseases to your flock.
- Use hand sanitizer before and after handling birds.
- If you buy new birds, quarantine them for up to 30 days before adding them to your flock to make sure they are not sick and do no make any others in your flock sick.

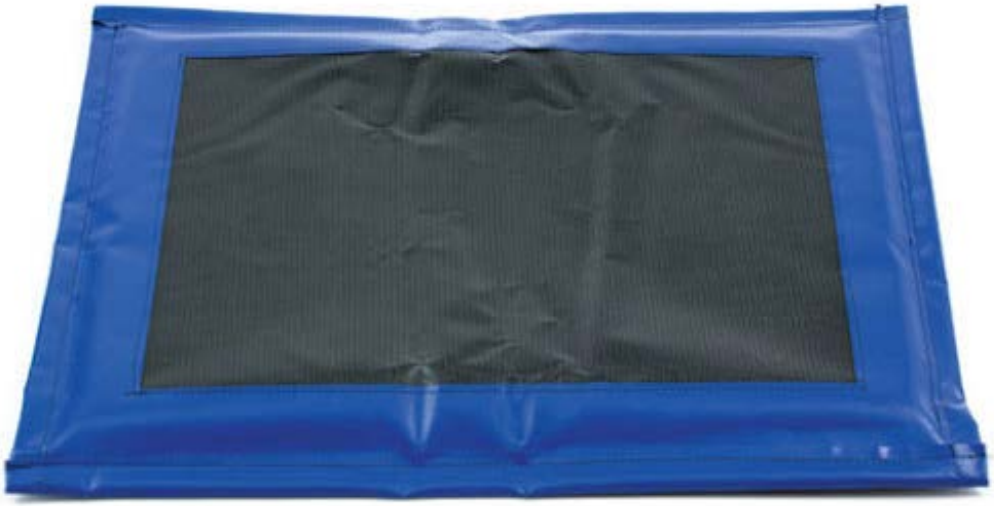
It is also a good practice to keep visitors away from your flock so they can't expose them to infection, but it may sometimes be necessary to have people around your flock.

## Disinfectant Mat for Biosecurity

Revival Animal Health's disinfection mat can help enhance biosecurity for your flock. This is how they the company's website describes the product:

> *"Just place mat on a level surface—mesh foam side up—and pour liquid sanitizer or disinfectant directly onto mat. The foam layer absorbs the liquid, allowing the mat to act as a disinfectant dispenser when stepped on. Its sturdy, impermeable poly tarp bottom keeps liquids in and toxins out. Sleek design minimizes tripping hazard and makes clean up easy. Place at entrances and exits so shoes get sanitized going in and coming out!"*

The product can be used both indoors and outdoors. Fresh disinfectant should be added once a week or so, and if used outdoors, then also after a rain.



Disinfecting Mat
$54.99

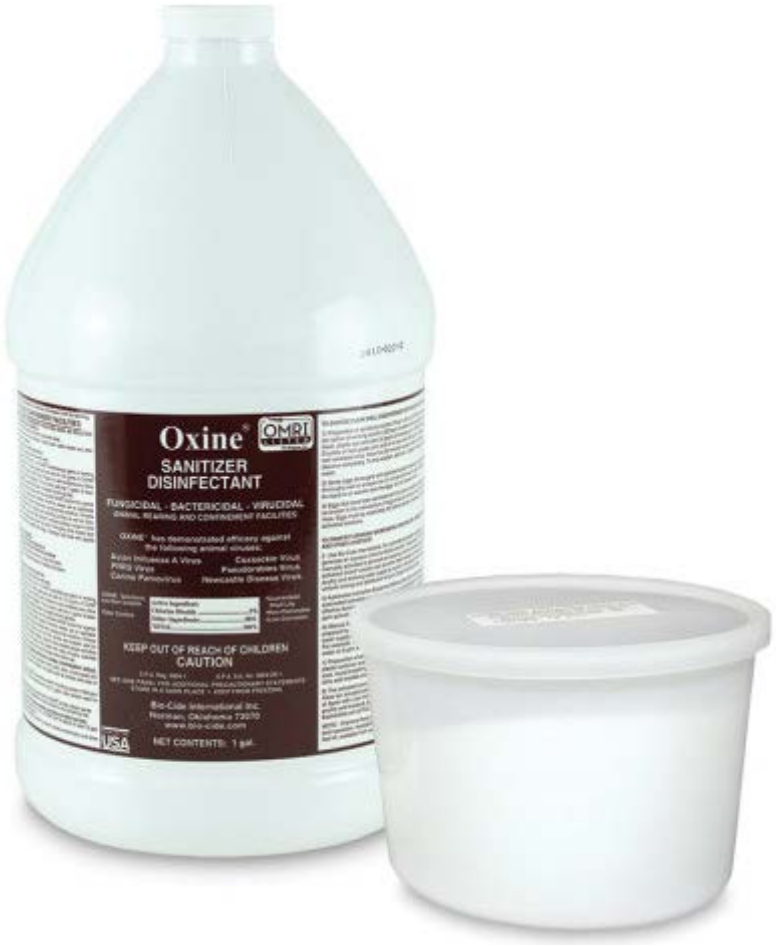
## Disinfectant Kit

The disinfectant kit includes a gallon of Oxine® AH and a pound of citric acid crystals. You mix it together to activate, let sit for 5 minutes, and then mix into a gallon of water. Pour it onto the mesh section of the mat, and you are all set.

Oxine AH is an effective agent against several strains of bacteria, fungi, and viruses, including E. coli, Salmonella, Staphylococcus, parvovirus, and more. Its effectiveness surpasses that of other common disinfectants including chorine bleach, quaternary ammonium, peracetic acid, and iodophors. Oxine AH is registered with the EPA and approved for use on organic operations through the Organic Materials Review Institute.

Oxine AH can be used by itself, but when used with the citric acid crystals, it strengthens the Oxine, making it work faster and enabling it to penetrate fecal material. The mat can also be used with other disinfectants such as Rescue Disinfectant and/or Trifectant as alternatives.

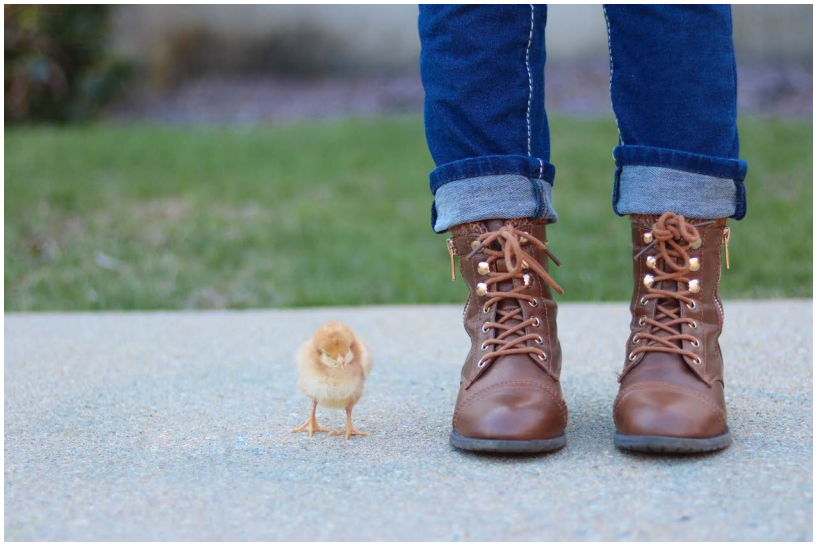
Oxine Animal Health (AH)/ Citric Acid Kit
$37.99



# PROTECT YOUR FAMILY'S HEALTH

Implementing biosecurity practices helps protect your flock from contracting diseases, but what measures are you taking to protecting yourself?

An increasing number of people around the country are choosing to keep poultry as part of the local foods movement. Many people consider them pets, going as far as naming their birds.



## Poultry and Salmonella

Poultry love the outdoors. They explore the yard, hunt for bugs and other goodies, and scratch the ground. While doing this, they can pick up germs like Salmonella, which they can also spread around the environment where they roam. Baby poultry can get Salmonella germs from mother birds and spread those germs soon after hatching. Salmonella germs naturally live in the intestines of poultry and many other animals, such as reptiles, amphibians, and rodents. While Salmonella germs usually don't make poultry sick, they can cause serious illness when passed to people. These germs can live in the environment for long periods—sometimes years. The last place you want Salmonella germs to settle in is your home.

## Keep Live Poultry Outside

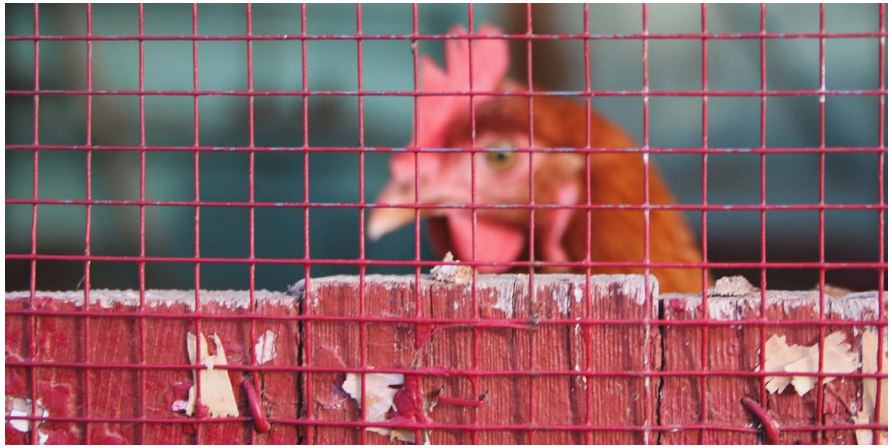
To decrease the chance of Salmonella germs making their way into your home and causing illness, it's important to keep live poultry outside of your home. Keeping poultry outside helps ensure that these harmful germs can't contaminate your home and spread illness to your family.

Baby poultry need to be kept in warm conditions, but that doesn't mean you need to bring them into your home. Some poultry sneak indoors when they have the opportunity, and some people treat their poultry like cats or dogs and bring them indoors when temperatures drop. Regardless of the reason for bringing poultry inside your home, it puts you, your family, and anyone who visits your home at risk for Salmonella infection.

Chicken diapers aren't enough to contain Salmonella germs. Poultry feathers and feet can harbor Salmonella germs. Birds can appear clean and healthy but be covered in germs that can make people sick—even when they're wearing diapers.

## Tips for Avoiding Home Contamination

- Use an outdoor brooder for baby poultry. Don't use a bathtub or shower in your home as a brooder, even if it's your spare bathroom. You can keep baby birds safe and healthy while keeping them outside of the home (and not with a heat lamp).
- Create a safe area to separate sick and injured birds outside or in your garage. When birds are sick or injured, they get stressed out. Changing the birds' normal environment can also cause stress, which can increase shedding of germs like Salmonella.
- Don't wash your birds in the kitchen or bathroom sink to get them ready for shows or other events. This can cause cross-contamination of food, drinks, and even your toothbrushes and allow the germs to spread much more easily.
- Clean and disinfect all equipment and materials associated with raising or caring for live poultry, such as feed and water containers and cages, outside of the house.
- Have a pair of shoes dedicated to coop-cleaning duty. After cleaning poultry housing areas, remove these shoes or boots outside the home to keep the germs outside.
- When outside, don't eat or drink in areas where the birds live or roam.



## Always Wash Your Hands

Just as you must wash your hands after handling raw poultry in the kitchen, it is important to wash your hands immediately after touching live poultry or anything in the area where they live and roam. Germs on hands can easily spread to other people.

While you enjoy the benefits of backyard chickens and other poultry, it's important to know how to prevent illness from germs like Salmonella. Salmonella infection can make young children very sick, but you can take simple steps to reduce the risk. A veterinarian with experience in the care of poultry is a great resource for more information about preventing Salmonella infection in people and protecting your birds' health.

**Hand-washing tips:**

- Wash your hands thoroughly with soap and water immediately after touching live poultry or anything in the area where they live and roam.
- Use hand sanitizer if soap and water are not readily available.
- Adults should supervise hand washing for young children.
- Wash your hands after removing soiled clothes and shoes.

## FAST FACTS

- Backyard poultry have many benefits, but they can pose some health risks to people.
- Poultry can appear healthy while carrying germs that make people sick, like Salmonella.
- Salmonella infections can cause more than just a few days of diarrhea and discomfort, ranging from mild to life-threatening symptoms. While anyone can become ill with Salmonella, children, pregnant women, older adults, and people with weakened immune systems are especially susceptible.
- Knowing the risks and simple steps you can take to protect yourself and your family is the first step to preventing infection.
- Any age and any type of poultry, including those in backyard flocks and organically fed poultry, can have and shed Salmonella germs while appearing healthy and clean.

Backyard Chicken® HEALTH PACK

# Healthy birds spread happiness




The digestive system is amazing and provides the nutrients needed to fuel your birds body systems and everyday activities!

Added to your flock's water, Zyfend® A is a source of enzymes, essential oils and yucca schidigera to provide digestive health support in chickens and all domestic poultry and waterfowl.

Zyfend A is also a part of the Backyard Chicken Health Pack, a three step, all-natural program designed to deliver a broad-ranging approach that helps support digestive health, every day.

***All natural, no antibiotics, no egg discard***

DBC Ag Products®

Healthy Flock

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