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## Notes & Quotes

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**It's time to focus on healthy soils and optimal production during the planting season!**

**Fertrell fertilizers provide "time released" nutrients for your crops throughout the growing season.**



**Start and End your season with our CLASSIC blends!**

**Super N, Super K, Gold S'S and Berry Mix**

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Your trusted partner; creating superior products for healthier soil, plants and animals. Healing the earth and feeding the world

- *Better Naturally!*



# Fertrell Fly Aside

**FLY ASIDE CONTAINS HIGH LEVELS OF SULFUR**

**\*10% OFF during month of June**



- **Decrease external parasites - flies, ticks, mosquitoes**
- **Essential for rumen microbial synthesis**
- **Increase milk production**
- **Increase rate of gain on meat animals**
- **Buffer high nitrogen from pastures and forages**
- **Reduce Milk Urea Nitrogen (MUN)**
- **Formation of essential amino acids - methionine, cysteine**

**These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.**



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*10 % discount for any orders placed during June. Restrictions apply.*

## **Sulfur for Livestock** **By Jeff Mattocks**

Sulfur is a key nutrient for all living creatures. It is an essential nutrient that we often overlook. For many years sulfur was free. It was being emitted by coal burning power plants, diesel fuel vehicles and other sources. This sulfur was caught in the clouds and returned to the earth by rainfall. However, this rain was acidic due to the sulfur dioxide and Nitric acid. The acid rain was causing negative side effects in lakes and water ways killing fish and reptiles in lakes and ponds. Also killing some types of trees and other vegetation. With acid rain causing environmental problems the EPA made laws and set restriction on sulfur and nitric acid emissions reducing the sulfur levels.

As I mentioned previously sulfur is an essential nutrient for cattle and other livestock. The sulfur helps the animal to utilize more of the proteins from the grasses that they consume. How does this work? In most grazing forages the grasses and legumes tend to be low in sulfur in the soil and therefore the plant tissue. Meanwhile the plant is full of nitrogen. Nitrogen is the raw ingredient of protein. Most laboratories actually test for nitrogen in forage samples. To my knowledge there are not any laboratory test for true protein. Instead, labs will test for the amount of nitrogen in the feed, then multiply nitrogen by 6.25 to get a crude protein level.

This is the universally excepted method for estimating protein values. What is not calculated is the relationship between nitrogen and sulfur. In the organic world of agronomic knowledge, we know that the relationship of nitrogen to sulfur is best at 10 to 1 or less. When the nitrogen to sulfur ratio is at or below 10 to 1 more of the nitrogen in the forages or pastures is better utilized by the animal. When the nitrogen is better utilized the Milk Urea Nitrogen (MUN) levels will be better. The milk protein levels will be higher. The animal's immune system will function at a higher level. The animal's stress



level will be lower. Livestock stress is the key factor to fly and external parasite issues. The flies can sense or detect which animals are struggling. Watch your herd sometime. You will see the flies are more attracted to animals that are lower body condition or struggling with heat stress or other type of stress that is holding them back from being truly healthy. Add all of these benefits up and it means more dollars in your pocket!

Sulfur is always best served through the soil to the plant to the animal. But this is not always possible. Sometimes the weather doesn't let you on the land to apply the much-needed sulfur. Sometimes the pocketbook doesn't always allow the expense of spreading sulfur. If you didn't get it spread on the ground for the plants to pick it up, you can feed it or free choice it to the livestock while eating the pastures or forages that may be low in sulfur. In 2019 Fertrell started offering High Sulfur Livestock mineral. The name has since been changed to Fertrell's Fly Aside. This product is designed to help livestock manage excess nitrogen from early and late season lush pastures.



Let's go back to protein and nitrogen for a moment. Previously, it was believed that a true protein is made up of minimum 3 amino acids. Many protein molecules have many more amino acids. There are 20 recognized amino acids. Our bodies and our livestock's digestive tract can breakdown protein to amino acids and recombine them into true proteins that their metabolism needs. Natural processes are really amazing sometimes! Where does sulfur come in? Well, 2 essential amino acids require sulfur

to be formed. Methionine and Cysteine are two of the four sulfur based amino acids. You may wonder if there are 20 amino acids why are these 2 important? Methionine has been proven to be a critical part of reproductive performance for ruminants. Cysteine is required for methionine to be fully functional. Methionine needs cysteine to work is the bottom line. With methionine and cysteine, you get better breeding. Over my 24 years of animal nutrition work at Fertrell, I have seen the lack of methionine in our livestock diets. Mostly in a slight lag in breeding conception rates. I have also noticed farmers with better forage sulfur levels have always had better animal reproduction.

This all adds up to sulfur in the plant or animal will enable more types of amino acids to be formed. Which means more true protein chains will be formed. Which leads to the animal being more efficient utilizing nitrogen to make true protein. All of this means lower MUNs and stress. It also supports better milk protein and reproduction. The reduced stress and MUN will reduce the likelihood of flies and external parasites attracted to your animals. I have also observed that dairy cattle with lowered stress levels tend to maintain lower Somatic Cell Counts. Just one more possible benefit.

Sulfur in the soil is best. But sulfur in the soil or the animal's diet is very important. In either case if we can get the nitrogen to sulfur ratio at or under 10 to 1, life gets better. A ratio of 8 to 1 seems to be better yet. But may not be cost effective. Consider supplementing your soils with sulfur on an annual basis. If this is not possible or realistic for your situation, consider supplementing your livestock with a high-quality sulfur supplement. Be cautious not to use powdered sulfur. This may cause eye and nose irritation to both you and your animal. A flake or mini prilled sulfur will be better to manage and less dusty. However, you choose to address this is up to you. But don't forget the sulfur. If you didn't put it on early this

spring or last fall, you may need to supplement your livestock. The nice part is, if they don't absorb it or make amino acids, they will deposit the sulfur on the soil for later plant use. Happy Grazing!

### **Fertrell's Fly Aside, Features and Benefits:**

#### **Sulfur may:**

- Increase milk production
- Increase rate of gain on meat animals
- Essential for Rumen microbial synthesis
- Decrease external parasites – flies, ticks, mosquitoes
- Formation of essential amino acids – methionine, cysteine & Cystine
- Buffer high nitrogen from pastures and forages
- Reduce Milk Urea Nitrogen (MUN)

#### **Cautions:**

- Sulfur may have a toxicity
- Do not use as the only free choice mineral
- Do not mix in feed above 2 oz. per head per day – mature animals
- May cause lethargy, blindness, poor coordination – University of MN

#### **More Sulfur:**

- Seeing sulfur deficiencies in most forage and soil samples
- Soils are depleted in most areas of the U.S.
- Livestock need (more) sulfur
- Healthier soils, plants, and animals.





## Poultry Feed Fats By Jeff Mattocks

I see many questions and comments about various fats and why one would be better or worse. Let's break down fats. I am not a fat expert, but I have a pretty good knowledge of fats.

Most of the virgin fats or oil are very good. In the feed industry a virgin oil or fat means that the oil hasn't been used for any other purpose i.e., deep fryer or other food prep. In the cooking oil world, virgin means the first pressing of oil from the olive, seed, etc. They all have similar energy level at 3950 Kcal/lb. and can be interchanged easy. Which oil you use is your personal preference. I tend to like olive or coconut oils because these have very good omega 3 fats, which are heart healthy. Flax oil is also a good option, but too much flax oil may lead to off flavoring of meat or eggs.

The commercial industry rarely uses only new clean oils. In most cases they are using reclaimed and recycled restaurant oils and grease. The collected oils and greases are transported back to be re-rendered. This means the oil (which has solidified) is heated up to be liquid then filtered to get the particulates out. After filtering, the reclaimed oil will be blended with new oil for use in animal feeds. Many commercial animal feeds, including poultry, will be using reclaimed restaurant grease (oil). Grease or oils that have been exposed to high temperatures for extended periods of time are known carcinogens. Therefore, they blend it with new or virgin oils to meet feed industry standards for safety. Citation - Impact of consumption of repeatedly heated cooking oils on the incidence of various cancers- A critical review. Kumar Ganesan 1, Kumeshini Sukalingam 1, Baojun Xu 1 Affiliations expand PMID: 28925728 DOI: 10.1080/10408398.2017.1379470

### Okay a little bit about the oils.

Flax, olive, and coconut oils are probably the

best. They have the lower Omega 6's and higher Omega 3's. These oils would be closer to what a chicken would find in the wild.

Sunflower, safflower, and canola oils would be the next best. Omega 6 - Omega 3 fatty acid ratio is not quite as good, but don't get hung up on this. These oils are still very good for your birds.

Soy, corn, and peanut oils come in last. Omega 6 - Omega 3 ratio isn't great, but these oils still work fine. The birds will still thrive with these oils added to their feeds.

Wheat germ, cod liver, and fancier oils - still great, expensive, not necessary. But they do work very well. These oils have great Omega 6 - Omega 3 ratios. They tend to have higher vitamin E than most of the oilseed oils. This may not be the most cost-effective way to get vitamin E.

Birds need fat (oil)! The best level for maintenance is 4.5% - 7%. Growing and developing birds can have fat levels up to 10%. The amount of fat in a diet correlates to the amount of fiber in the diet. To have higher fat levels, you'll need higher fiber levels in the feed. This will keep the fats from coating the digestive tract and effecting nutrient absorption.

Fat and cholesterol are good! All in moderations. If the birds were out roaming around to find their food, they would be eating a diet close to 7 - 8%. This would be higher in the fall of the year as the higher oil seeds would be ripening. Fats are necessary for the liver to function correctly. The liver processes the oils into cholesterol that supports body functions throughout the body.

Most commercial feeds contain about 3.5% fats. Mostly because they have gotten away from using oil seeds with all their oils to make feed. Why? The oil has a higher value going into processed human foods, cosmetics, other industrial processing.

When you get a feed formula from Fertrell,

you will always see fat levels near 6% when possible. I have found that 6% fat works very well for maintenance feeds. For poultry fat levels between 4 - 6% are very good. This is for ALL classes of poultry and waterfowl. Fats at correct levels will increase feather sheen, improve breeding, improve chick health at hatch, Helps everything!

**Turf Pro 5-0-5**  
**10% OFF during May!**

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SINCE 1946  
Better Naturally!

**Turf Pro is a balanced fertilizer blended to be available throughout the season. Can be applied anytime from April through October and is designed to thicken the turf and build the root system.**

**General application:  
6-10 lbs/1000 sq ft.**

*10% discount for any orders placed during May. Restrictions apply.*



# Now is the time to protect your flock against avian flu!

The highly contagious and deadly avian influenza (HPAI) has the potential to be a catastrophic disease in commercial poultry and small flocks. The disease has already been detected in a number of states, and there is an immediate, high-level threat in Pennsylvania.

## Protection starts with biosecurity

This checklist is a general guide to practicing good biosecurity, but if you have a site-specific biosecurity plan, follow it.

- **Keep visitors to a minimum.** Only allow people who take care of your poultry to come in contact with your birds. Make sure everyone who has contact with your flock follows biosecurity principles.
- **Wear personal protective equipment** or clothing and shoes that you only use when caring for your poultry. This includes boot covers or boots that can be disinfected. Change into fresh protective gear between poultry houses or coops.
- **Enclosures must be empty for a thorough cleaning.** If you have a poultry house, wait until the house is empty to start the cleaning process. If you have a coop or other type of enclosure, move the birds to a separate area before cleaning.
- **Remove all litter, manure, and other debris.**
- **“Dry” clean all areas** - brush, scrape, and shovel off manure, feathers, and other materials. Disinfectant will not penetrate organic matter or caked-on dirt.
- **“Wet” clean all surfaces** - scrub with water and detergent. Work from top to bottom and back to front.
- **Rinse all surfaces carefully with water.**
- **Apply disinfectant** according to the directions on the label. Be sure to use a disinfectant that is registered by the U.S. Environmental Protection Agency (EPA) and indicates that it is effective against avian influenza and other poultry diseases.
- **Leave the enclosure empty** until it is completely dry. Use fans and/or open doors and windows to help speed the drying process. Wet surfaces can be harmful to poultry.
- **When you’re done, remove and discard** your protective gear. If using dedicated clothing and boots, change clothing and clean and disinfect your boots.
- **Wash your hands thoroughly** with soap and water. Wash and dry your dedicated clothing.



## Look for signs of HPAI

- Sudden increase in mortality
- Decreased feed or water consumption
- Decreased energy (lethargy, depression)
- Decreased egg production
- Soft-shelled, thin-shelled, or misshapen eggs
- Swelling or purple discoloration of the head, eyelids, legs or feet
- Difficulty breathing
- Coughing, sneezing, nasal discharge
- Incoordination, stumbling
- Abnormal position or twisting of the head and neck
- Diarrhea

### If you suspect HPAI in your flock

Call the PDA hotline immediately. Do not move the birds. There is no penalty for calling and testing for surveillance is free. Pennsylvania Department of Agriculture (PDA) emergency number at 717-772-2852 (press option 1 to reach the veterinarian on call)

### Stay informed

For more information, resources, and the latest developments in the fight against HPAI, go to the Penn State Extension web page at [extension.psu.edu/avian-influenza](http://extension.psu.edu/avian-influenza)





## News From The Front:

Commodities and freight changing frequently, therefore prices may change without notice. Please review your order confirmation in detail.

**Monthly specials:** just a reminder, products purchased on monthly specials must be shipped/picked up with your next order or within 30 days, whichever comes first. Due to limited warehouse space, we cannot hold / store customers' orders.

Thank you for your understanding.

## New Product:

**Pro K liquid Potassium**, available in 2.5 gallon containers.

Benefits of Pro K™ 0-0-20

- Excellent plant absorption rate
- Rapid uptake through the leaf
- Ideal where soil application is a limiting factor
- Extremely phloem mobile within the plant
- Easy to handle, consistent liquid solution
- Plant-derived organic potassium
- Works for both foliar and soil applications
- Provides a near-immediate plant response
- No application risk of phytotoxicity
- Cannot tie up in soils because of molecular derivation
- Non-salt-contributor and does not contain chlorides
- Works on all plant life in all stages
- Instantaneous delivery of key nutrients
- Known to improve drought resistance

## New Product Look:

You may have noticed, **Fertrell liquid fertilizers** have a new look. We changed the bottle shape for easier shipping. It will also require less warehouse space at retail locations. Same quality products, just new bottles!

## Holiday Closure

The Fertrell Office and Plant will be **Closed**.  
**Memorial Day 2022 - Monday May 30th**  
**July 4th - Monday July 4th**

## Garden Fertility By Orin Moyer

By now for most of us, it is feeling much like summer with vegetable crops out in the garden and starting to take off. Late spring and early summer are great times to review the fertilization that you did before planting and to make any adjustment. Hopefully you had a soil test and applied necessary amendments prior to planting or at planting; if you didn't, there is still plenty of time to put down fertilizer.

Most of Fertrell's dry fertilizers can be side dressed along the row and worked into the soil. If you don't have a soil test to provide specifics, a good general application rate for side dressing many of Fertrell's dry fertilizers is 10 lbs per 100 row feet.

Larger fruiting crops typically require more potassium, so we suggest using Fertrell's Super K 3-4-7. Leafier crops prefer Fertrell's Super N 4-2-4.

Once you have applied a good dry fertilizer blend, it is also beneficial for plants to foliar feed with a liquid fertilizer. Fertrell offers a product called Liquid # 3 2-3-1, which is a blend of fish, kelp and humic acid. Liquid fish itself provides N-P-K as well as amino acids for improved crop growth. Kelp naturally contains plant growth stimulants that encourage crop performance and growth. Kelp is also high in iodine which when foliar fed helps to reduce insect pressure on garden crops. Liquid # 3 can be foliar fed at a rate of 1-2 oz. per gallon of water. Apply on crops to get complete coverage, but not to the point that it is running off the leaves.

Liquid fertilizers can be applied every 7-10 days throughout the growing season or anytime that plants are in a stressed situation.

It's not too late to fertilize your garden!

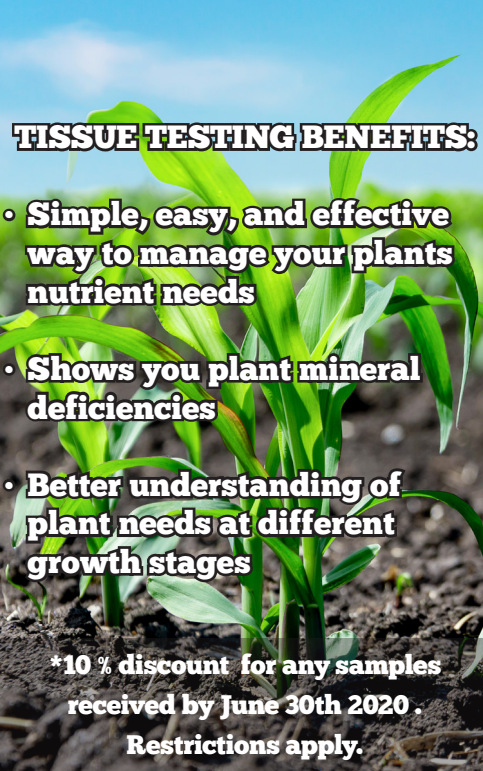


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# Tissue Testing

**Suspect issues during the growing season?**

**\* 10% Discounts on tissue testing via Waypoint lab in Leola PA only**



**TISSUE TESTING BENEFITS:**

- **Simple, easy, and effective way to manage your plants nutrient needs**
- **Shows you plant mineral deficiencies**
- **Better understanding of plant needs at different growth stages**

**\*10 % discount for any samples received by June 30th 2020**  
**Restrictions apply.**



## Rising Grains Prices By Alyssa Walsh

Much like everything else, grain prices are rising. We've been seeing these increasing grain prices since the last domestic harvest. Wheat, oats, and pea prices are rising because of limited availability due to crop failures in the US Midwest and Canada and other world events. Politics aside, as the conflict in the Ukraine continues to escalate, we are seeing more disruptions in the wheat supply chain, which in turn increases prices. Ukraine and Russia supply around 30% of the world's wheat. If the conflict continues, this will impact Ukraine's ability to export grains because of port closures. Specifically with the prices of wheat, Fertrell has gotten requests for reducing or replacing wheat in rations. Because of this, I wanted to outline the importance of wheat in a ration

### Benefits of wheat:

- Wheat is an energy source. It can be used as a corn replacement. There are different varieties of wheat which have different nutrient values. For example, soft white wheat averages 10% protein and 1,460 kcal/lb. and hard red wheat averages 14% protein 1,440 kcal/lb.
- Wheat is a natural source of niacin, which is a B vitamin that is required by all animals. Ducks and waterfowl have higher niacin requirements in comparison to other poultry, so adding wheat is a natural way to increase niacin levels in feed.
- Wheat helps pelleting because of its starch content

### What can we do?

The simple answer is to substitute wheat in rations. We can replace wheat with other grains like oats, barley, or corn. Unfortunately, other small grain prices are rising as well. Oats have limited availability because of last year's extreme drought in the northern plains. Barley prices have nearly doubled because of low availability. The trend is, when one grain price increases, other grain prices increase as well.

For poultry, we can also manage the way feed is presented. One of the best ways to do this is through managing feeder heights. The ideal feeder height is when the lip of the feeder is level with height of the average bird's back. At this height, birds will have a difficult time sorting through feed, which will encourage them to eat more of their grains. With feeders at this height, it's more difficult for the birds to kick pick through and throw out feed. Secondly, limit the amount of feed being fed to layers. We don't want to full feed layers because it leads to more waste. The average laying hen should eat 0.25-0.28 lbs. of feed per day. Lastly, avoid feeding on the ground. These practices can help reduce waste and help cut costs.

Due to the circumstances out of our control, all we can do is try to be wiser about how we feed our animals. Fertrell's nutrition staff is always here to help you formulate a quality feed ration that will yield quality results even in these difficult times.



**Grazier's Choice**  
FREE-CHOICE LIVESTOCK MINERALS

**Fertrell**  
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Ask about our 3 options: Graziers Choice, Graziers Choice w/ Copper and Graziers Choice w/Hi Mag

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\*Restrictions Apply

A superior free choice supplement for all classes of livestock.

A unique blend of nutrients specifically designed for grazing livestock.

Fortified with Thorvin kelp, Redmond salt, vitamin E, selenium, calcium, and phosphorus.



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Bovan brown & Easter Eggers.

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\*Restrictions apply



**CGS Remedy** - Elecampane root, walnut leaf, black walnut hulls, mugwort and wormwood. Available in 60 oz, 5 qt, and 15 lb.



**Dull It Tincture** - Organic alcohol, organic apple cider vinegar, white willow bark, st. johnswort, chamomile, arnica, and fennel. Available in 2 oz and 8 oz bottles.



**Calf Start** - MFG 150 OMRI approved, tinctures of garlic, slippery elm, and cayenne and vitamin C in organic grain alcohol. Available in 32 oz, 64 oz, and 1-gallon bottles.