

## JOHN'S CORNER

### Organic Fertilizers and Nutrients – 9 Alfalfa Meal

*By John Ferguson*

This week I want to talk about another great organic fertilizer known as Alfalfa. Alfalfa (*Medicago sativa*) is a plant grown for many reasons as it is used in animal feed, for medicinal purposes, used as a cover crop, and to make mulch and organic fertilizers. The plant will grow to about 3 feet tall but can develop a root system that grows down over 45 feet! Hence Alfalfa is very drought tolerant and the deep roots will collect minerals that have leached into the subsoil. Alfalfa is also a legume that fixes nitrogen into the plant and soil. Additionally, Alfalfa makes a great cover crop (living mulch) and has the highest feeding value of all the plants grown as hay.

The name Alfalfa came from Arab words that mean "the Father of All Grains" since it was so nutritionally rich. Alfalfa is commonly available in meal, pellets or as hay. To make the meal or pellets the alfalfa hay is harvested, dried and then chopped into fine pieces. The fine pieces are sold as meal. The pellets are made by taking the meal and adding a binder (usually molasses) and then pressing it into pellets of the desired size. Alfalfa is a great animal food from horses to rabbits hence it is often found at feed stores in large bags (50 pound) and at better prices than some garden centers. The alfalfa is pressed into large pellets for horses and smaller pellets for rabbits. Many gardeners find that the rabbit sized pellets work well in their gardens.

Alfalfa can range from a 5-2-1 to 3-2-1 fertilizer depending on the variety and is a good source of nitrogen (N), iron (Fe), calcium (Ca), magnesium (Mg), phosphorus (P), zinc (Zn), vitamins (A, D, B1, B6, E, K, U), niacin, riboflavin, folic acid and triconatol (a fatty acid growth stimulant). It also includes sugars, starches, proteins, fiber and 16 amino acids.



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Due to its richness, Alfalfa meal or pellets is a favorite organic fertilizer by many rose growers. For roses 1-2 cupfuls per large rose bush is a common usage. Typical use in most gardens is 20-30 pounds per 1,000 square feet.

A study from Italy found that plants fertilized with Alfalfa meal had reduced pest nematode populations as compared to the control that used artificial fertilizers.

One study found that plants fertilized with alfalfa meal had increased cold tolerance when compared with artificial fertilizers.

Note: Several studies have found that plants fertilized with organic fertilizers are healthier and healthier plants are naturally more tolerant of cold, heat or drought or other environmental stress.

In another study researchers found that growing alfalfa on soils contaminated with toluene and phenol, the increased respiratory activity in the soil-plant-microbe system quickly biodegraded the chemicals.

Another benefit of growing Alfalfa is that it is a great place for beneficial insects to live. As a result it is often used as a companion crop planted between the rows of the main crop. This allows the beneficial insects to control the pests in the main crop.

Many gardeners like to use Alfalfa tea to water and fertilize their plants. Alfalfa tea is another good way to get the nutrients from Alfalfa into the soil and into the plant. A method published by The American Rose Society is to take a 30 gallon plastic garbage can and fill with water. Then take 8-10 cups of Alfalfa meal or pellets and mix in. Cover the container and let bake in the sun for 3 days stirring it at least once each day. Eventually the liquid will take on an orange color and the organic material will settle to the bottom of the container. It is now ready to use. Some gardeners may add fish emulsion, seaweed or other ingredients to spike the tea even more before applying to plants.

Another recipe is just putting a cup of meal into a 5 gallon bucket and let it sit for several days. It will become stronger and more odiferous the longer you brew it. Strain the tea to remove the



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fibers then you can use it as a foliar spray or as a soil drench. The left over fibers can be used as mulch or in your compost bin.

Other folks claims the alfalfa tea works even better if a handful of good soil or compost is added with the meal when starting the tea. I suspect there is some truth to this, as the microbes from the soil or compost will start eating the alfalfa and start releasing the nutrients in a plant available form, allowing plants to absorb them quicker.

Note: One report stated that the stronger and more powerful the smell the better the tea works.

When food crops (tomatoes to apples) are grown with fertilization from alfalfa they will tend to be higher in nutrients than those grown with artificial fertilizers, since alfalfa has a bigger variety of nutrients.

When using alfalfa one MUST be careful that it is not a GMO Alfalfa (Roundup Ready). A problem for gardeners is that many farmer are growing genetically modified Alfalfa varieties. These plants can tolerate very high levels of Roundup hence the hay or pellets may contain enough herbicide residues to kill your plants. Only buy organic or at least non-GMO Alfalfa.

TIP: As in any hay or grain based product it may attract rodents or other animals that eat grain or grass. It is best to store unused portions in a metal trash can.

SUMMARY: Alfalfa meal or pellets is a great organic fertilizer and soil amendment. The main negative is that it must be transported a long way to get it to us which requires fossil fuels. For the nutrient density received there are less costly alternatives.



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**PROS:**

- contains major plant nutrients
- contains many minor and trace elements
- hormones to stimulate plant growth
- builds organic matter in your soil
- feeds the beneficial microbes
- does not burn plants
- reduces populations of harmful nematodes
- helps the soil to hold moisture
- some brands are enhanced with rock minerals
- easily available
- safe for children and pets

**CONS:**

- some sources may be GMO (genetically modified varieties)
- may contain herbicide residuals (especially GMO varieties)
- slower acting than other types of organic fertilizers
- slightly alkaline and should not be used on acid loving plants too often
- may be dusty
- may attract rodents or other animals
- must be transported from out of state areas