

JOHN'S CORNER

ORGANIC FERTILIZERS AND NUTRIENTS 21: BONE MEAL

by John Ferguson

This week I want to take a look at another common organic fertilizer called Bone Meal.

Bone meal is sold as a dry inert powder made from animal bones and used as a high phosphorous (P) organic fertilizer. It is used as an ingredient in animal feed from dogs and cats to fish. It is also used as a natural calcium mineral source for humans and found in some supplements. It is a slaughterhouse by-product of our meat industry and the most common source is from cattle, however it may be made from hogs, sheep, chicken or fish.

Bone meal is primarily considered a phosphorous source; however, it contains some nitrogen (N - 1-4%), calcium (Ca - 24%) and magnesium (Mg) with small amounts of other nutrients and trace minerals. A typical analysis is (N-P-K) of 4-12-0 with some ground and steamed meals of 1-13-0. Note: If one sees the last number (K) as anything but zero then it most likely has had some potassium chloride *salt* added to it. It is no longer organic and should not be used.

Many myths persist that bone meal contains mad cow disease (BSE) bovine spongiform encephalopathy. According to research, the prion protein is not found in blood, bone, or milk, hence it has never been found in blood meal or bone meal. Additionally, the bones are most often cooked to dry them out and make the bones more brittle and easier to grind into a powder (Some brands are cooked with high temperature steam).

Usage varies from 5-6 pounds per 100 square feet to adding a couple of tablespoons into the bottom of a transplant hole for a 4 inch plant. Many gardeners like to use a little bone meal in the bottom of the hole when planting bulbs as it seems to help them get off to a good start producing stronger plants. If the bone meal is finely ground it can be mixed into water and used in this way to apply to the soil and get it into the root zone quicker. Microbes in the soil eat the bone meal and make the nutrients available to plants at the correct time and in the correct amount.



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Many animals (carnivores) naturally eat bones as part of their diet and as a result are attracted to bone meal. This includes pets (dogs and cats) to raccoons and other animals. One website for pets indicated that it can make dogs sick. My dogs over the years never had any problems and if I turned my back on them they had their nose in the bag licking it up.

Many gardeners like to make their own bone meal and it is a great way to recycle a common waste product. My grandmother was a gardener and after using leftover bones from chicken to beef to make stock, she would dry them on some newspaper out in the sun for a couple days. After drying, my job was to take a hammer and beat them into a pulp for her to use in the garden.

SUMMARY:

Bone meal is another organic tool in a gardeners toolbox and is a great way to supply phosphorous and calcium to our soils or help out in a compost pile.

PROS:

- good source of phosphorous and calcium
- relatively inexpensive
- good availability
- available in bags or bulk
- slow acting so lasts a long time
- easy to use
- often used in compost piles as a calcium and phosphorus source
- can be applied dry or as a liquid
- low salt
- renewable resource
- good for lime loving flowers (clematis, Hydrangea, etc.)
- good for almost all bulbs

CONS:

- may be dusty (wear a mask)
- may attract to carnivores like dogs, cats and raccoons

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- not a complete fertilizer
- too much can cause nutrient tie-up problems
- buying liquid bone meal is a waste of money as it is mainly water
- too much may prevent the growth and colonization of roots by mycorrhizal fungi
- cheap low quality brands may contain chemical salts.

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