

**RESEARCH PROVES MILORGANITE NATURAL ORGANIC
FERTILIZER PRODUCES BIGGER, BETTER TOMATOES THAN
CONVENTIONAL SYNTHETIC FERTILIZERS**

As the growing season draws near, backyard gardeners everywhere are considering what to plant and how to plant it to improve upon last year's results. After preparing your plot and carefully selecting the appropriate plant varieties, another important consideration is which fertilizer to use. With so many products available on the market, it can be hard to know which one is right for you.

A research study, comparing a variety of fertilizers for use in vegetable gardens, produced some exciting results.

THE RESEARCH GARDEN

In 1996, Dr. Wayne Kussow, a leading turf and soil expert, and Dr. Jaya Iyer at the University of Wisconsin-Madison, initiated a study to compare the effects of different fertilizers on the yields, mineral contents and visual qualities of garden produce. Included in the study were Scotts (17-25-5), Fertilome (11-15-11), Ortho (8-10-8) and Milorganite (6-2-0). A Milorganite-based fertilizer (11-14-6), created by supplementing the product with additional nitrogen, phosphorus and potassium, was also included in the study.

The planting medium used was a Plano silt loam with a pH of 6.6, 3.4 percent organic matter, 38 parts per million (ppm) of phosphorus and 200 ppm potassium. The synthetic fertilizers were applied at rates suggested by the manufacturers. Scotts at one pound per 100 square feet, Fertilome at two pounds per 100 square feet and Ortho at three pounds per 100 square feet. Milorganite was applied at three different rates to determine which were best for home vegetable production: two, four and six pounds per 100 square feet. Likewise, the Milorganite fertilizer blend was applied at one, two and three pounds per 100 square feet. Each fertilizer treatment, as well as the control group with no fertilizer application, were replicated four times in individual pots.

To simulate a typical garden, Dr. Kussow and Iyer grew a variety of produce, tomatoes, a standard crop; carrots, a root crop; and Swiss chard, a leaf crop. Tomatoes were seeded first in a peat potting mixture and then transplanted three weeks later in the experimental pots. Produce was harvested on four separate occasions. However, because the second harvest did not contain enough treatments or repetitions, it was not statistically considered in the final results.

After harvest, both fresh and oven-dried produce weights were taken to determine yields. The dried produce was then ground and analyzed for total mineral and heavy metal concentrations. The results were surprising.

MILORGANITE TOMATOES OVER THE TOP

Milorganite mixed at two pounds per 100 square feet produced the highest tomato yield at the first harvest, while Milorganite mixed at four pounds per 100 square feet maintained higher tomato yields at the third and fourth harvests. Not only did Milorganite outperform Scotts, Fertlome and Ortho vegetable fertilizers, it also outperformed the Milorganite fertilizer blend with a higher nutrient analysis.

The macronutrient and micronutrient concentrations in the tomatoes varied over the three harvests. However, tissue analysis indicated that potassium levels in tomatoes grown with Milorganite were significantly higher than those grown without fertilizer, even though Milorganite contains less than one-half percent potassium. This indicates that tomatoes have the ability to absorb potassium from the soil if they are supplied with other nutrients found in Milorganite.

Tissue analysis also showed that there were no significant differences in the amount of heavy metals found in any of the tomatoes, whether they were fertilized or not. In fact, unfertilized tomatoes sometimes contained the highest metal concentrations.