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## JOHN'S CORNER

### Organic Fertilizers and Nutrients –15 WHEAT MIDLINGS

*By John Ferguson*

A while back I was talking to a customer about Microlife organic fertilizer. He was looking at the ingredients on the bag and asked, "What is wheat Middling's"? Since wheat middling's are not as common along the gulf coast as in other areas of the state (but are a common ingredient in many organic fertilizers), I thought it was time to cover the topic.

Wheat middling's are also known as millfeed, wheat mill run, or just wheat mids. Depending on the processor or types of wheat, these terms may have slightly different meanings. For use in fertilizers they are often just lumped together as they are similar.

Wheat middling's are the by-product or waste produced by milling of the wheat kernel or grain to make white flour. It generally includes screenings, bran, germ and flour residuals that can contain 14-18% protein by dry weight. They are also high in phosphorous (P) and potassium (K) along with minor nutrients including copper (Cu), zinc (Zn), magnesium (Mg), and selenium (Se).

To make white flour, the richest and most nutritious part of the wheat grain is removed (80-90% of the nutrition) and ends up in the waste products we call wheat middling's. This is why it is used in organic fertilizers and in animal feed. I remember reading that the reason children often eat Elmer's glue or paste is that it has 10-15 times the nutrients of white bread. (Note: When one eats white bread all they get are calories that make them fat, often leading to diabetes).

#### **SUMMARY:**

Wheat middling's are available in bags as loose meal or pellets in some areas, however it is not a balanced fertilizer. This material is relatively nutrient dense, hence it makes a good ingredient that is found in the better organic fertilizers where mixed with other ingredients it can make a balanced plant food.

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**PROS:**

- good source of protein and minor elements
- inexpensive and readily available in some areas
- easily digested by soil microbes to make nutrients available
- good feedstock for earthworms

**CONS:**

- low in calcium
- nutrient content and density varies
- may be dusty
- very limited availability along the gulf coast.