

## Nutritional Science (Microbiology, Path, 17)

Whole wheat grain  $\neq$  wheat grain  $\neq$  multigrain  $\neq$  100% whole wheat  $\neq$  whole wheat

### Whole wheat:

Whole grain is least 51% of the amount of three layers of grain

Consists of three parts of grain:

- Bran: fiber, soluble vitamins
- Endosperm: starch, some protein/vitamins, water minerals
- Germ: most vital part, contains water-soluble fat, acids, B vitamins, vitamins

### Processing: bran-then and germ

#### Why Milling?

- Increased shelf life when you process grain
- More palatable
- Less a lot of fiber that is not absorbable in food

### Enrichment: not as healthy as whole grain

Enriched you add back:

- B-vitamins
- Iron
- Thiamine
- Zinc
- Folate
- The fiber

Multigrain  $\neq$  whole grain (essentially same thing) - that required to contain 51% of the amount of three layers

4 "brands" with whole wheat  $\neq$  truly whole of a certain whole grain

100% whole grain: all of it consists of three layers of grain

### Wheat:

- Contains 12% moisture
- 10% protein
- Keeps blood glucose from spiking
- Promotes healthy cholesterol
- Shows positive absorption, lower cholesterol and lower risk of heart disease
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### Whole Wheat:

- Cholesterol and protein with water/fiber in ground form
- Keeps blood glucose from spiking