

FEEDSTUFFS

The National Junior Swine Association Educational Materials and Resources

LEARNING OBJECTIVES

- **Identify various feedstuffs used in swine diets.**
- **Explain the purpose of each feedstuff in the diet.**
- **Understand the importance of utilizing feedstuffs for swine nutrition.**

WHAT IS A "FEEDSTUFF"?

- A feedstuff is basically any food that is used for livestock.
- Feedstuffs are used to provide minerals, protein, and energy in swine diets.
- Various colors and textures can help you tell feedstuffs apart.
- We want swine diets to be high in energy, low in fiber, and adequate in terms of protein.

FEEDSTUFFS TO KNOW

- Dicalcium Phosphate
- Soybean Meal
- Fish Meal
- Copper Sulfate
- Whole Wheat
- Milk Replacer
- Whole Cotton Seeds
- Whey
- Steam Rolled Oats
- Cracked Corn
- Wheat Middlings
- Blood Meal
- Distillers Grains
- Dried Egg
- Milo
- Mixing Salt

MINERALS

- **The following feedstuffs are excellent sources of minerals in swine diets.**
 - **Dicalcium Phosphate**
 - **Copper Sulfate**
 - **Mixing Salt**

DICALCIUM PHOSPHATE

- **Color: Gray**
- **Texture: Granular**
- **Appearance: Looks like small rocks of uniform size**
- **Purpose:**
 - **Provide calcium and phosphorous**
 - **Increase bone strength**
 - **Improve structural development****Decreases chance of rickets**



COPPER SULFATE

- **Color: Blue**
- **Texture: Finer Crystals**
- **Purpose:**
 - **Provide copper in diets**
 - **Assist in the growth and development of swine**
 - **Increase growth performance of young pigs**



MIXING SALTS

- **Color: White**
- **Texture: Granular, Grainy**
- **Appearance: Looks like tiny uniform crystals**
- **Purpose:**
 - **Maintain appetite and normal eating/drinking behavior**
 - **Increase growth and performance**
 - **Improve hair and skin conditions**



PROTEIN

- **The following feedstuffs are excellent sources of proteins in swine diets.**
 - **Soybean Meal**
 - **Fish Meal**
 - **Blood Meal**
 - **Distillers Grains**
 - **Dried Egg**
 - **Milk Replacer**

SOYBEAN MEAL

- **Color: Light Brown**
- **Texture: Granular and Flaky**
- **Other Characteristic: By-product after removing the oil from the seeds**
- **Purpose:**
 - **Provide protein and amino acids**
 - **High in lysine (most limiting factor in swine diets)**
 - **Complement other feedstuffs well in the diet**



FISH MEAL

- **Color: Brown**
- **Texture: Powdery**
- **Other Characteristic: Smells like fish, by-product of fisheries and removal of oil from fish**
- **Purpose:**
 - **High in protein**



BLOOD MEAL

- **Color: Dark, Deep Brown**
- **Texture: Granular, powdery**
- **Other Characteristic: By-product of the meat industry**
- **Purpose:**
 - **High source of protein**
 - **High source of lysine when processed correctly**



DISTILLERS GRAIN

- **Color: Brown**
- **Texture: Flaky to powdery**
- **Other Characteristic: sweet smell, by-product of making alcohol for liquor and fuel**
- **Purpose:**
 - **Provide protein and energy**
 - **Cost effective for swine diets**



DRIED EGG

- **Color: Yellow/gold**
- **Texture: Powdery**
- **Purpose:**
 - **Provide protein and energy**
 - **Good source of immune globulins**
 - **Well-suited for younger pig diets**



MIL REPLACER

- **Color: White/cream**
- **Texture: Fine, powdery**
- **Purpose:**
 - **Provide protein and energy**
 - **Often used with very young pigs to assist in rearing**
 - **High in protein**
 - **Does not fully substitute the nutritional value of sow's milk**



ENERGY- FATS AND CARBOHYDRATES

- The following feedstuffs are excellent sources of energy in swine diets.
 - Whole wheat
 - Whole cotton seeds
 - Milo
 - Whey
 - Steam rolled oats
 - Cracked corn
 - Wheat middlings

WHOLE WHEAT

- **Color: Brown**
- **Texture: Smooth with round edges**
- **Other Characteristics: Crease along the middle of one side**
- **Purpose:**
 - **Excellent source of energy**
 - **Often not as competitively priced as corn or milo**



WHEAT MIDDLINGS

- **Color: Brown with white spots**
- **Texture: Flaky**
- **Other Characteristics: Looks like crumbled bran cereal, by-product of removing starch from wheat**
- **Purpose:**
 - **Source of energy**
 - **Improved feed disappearance**
 - **Improved gain**



MILO

- **Color: Reddish brown**
- **Texture: Smooth**
- **Other Characteristics: Round bead-like grain**
- **Purpose:**
 - **Great source of energy**
 - **More economical than corn**
 - **Not as high in energy content as corn**



WHEY

- **Color: Light brown**
- **Texture: Fine, powdery**
- **Other Characteristics: Sweet smell, by-product of making cheese**
- **Purpose:**
 - **Contains lactose and protein**
 - **Economical**
 - **Good source of energy**
 - **Can be used similar to milk replacer**



WHOLE COTTON SEEDS

- **Color: White**
- **Texture: Fuzzy**
- **Other Characteristics: By-product of removing cotton lint from seeds**
- **Purpose:**
 - **Good source of energy**
 - **Do not feed too much to swine or result in gossypol toxicity**



CRACKED CORN

- **Color: Yellow and white**
- **Texture: Rough**
- **Other Characteristics: Whole corn kernels that have been broken**
- **Purpose:**
 - **Excellent source of energy**
 - **Excellent feed efficiency**
 - **Excellent average daily gains**



STEAM ROLLED OATS

- **Color: Light Brown**
- **Texture: Flaky**
- **Other Characteristics: Whole oats that have been steamed and rolled; look for creases in the kernel caused by the roller**
- **Purpose:**
 - **Serve as a gut fill product**
 - **Improved digestibility**



FEEDSTUFFS QUIZ

See what you've learned!

QUESTION 1

Which of these pictures represents soybean meal?



QUESTION 2

Which of the following has a sweet smell similar to that of milk replacer?

Fish Meal

Blood Meal

Dried Whey

Cracked Corn

QUESTION 3

Which of the following is the most limiting factor in swine diets?

Lysine

Leucine

Valine

Tryptophan

QUESTION 4

Which of the following could lead to gossypol toxicity if fed in excess?

Milo

Cotton Seeds

Dicalcium Phosphate

Whole Wheat

QUESTION 5

Milo is higher in energy content than corn.

True

False

ANSWERS

1. Which of these pictures represents soybean meal?



2. Which of the following has a sweet smell similar to that of milk replacer? **DRIED WHEY**

3. Which of the following is the most limiting factor in swine diets? **LYSINE**

4. Which of the following could lead to gossypol toxicity if fed in excess? **WHOLE COTTON SEEDS**

5. Milo is higher in energy content than corn. **FALSE**

Congratulations!

**You've completed the "Feedstuffs"
resource! Great Work!**

**Keep going through the resources to
learn more about swine!**