

Answer Key

1. What is manure?
Manure is a by-product containing plant nutrients and organic matter.
2. What does manure provide for soil?
Adds valuable macro and micronutrients
Supplies organic matter to improve soil's physical and chemical properties
Increases infiltration of water
Enhances retention of nutrients
Reduces wind and water erosion
Promotes growth of beneficial organisms
3. How much manure is produced each year in OK to use as fertilizer?
10 million tons
4. How much nitrogen does feedlot manure provide?
24%
5. How much phosphate does lagoon sludge provide?
16 lbs per 1000 gal
6. What affects the final nutrient composition of the waste?
The type of animal housing system and/or waste handling method.
7. What has a diluting effect on the final nutrient concentration of waste?
Bedding and water
8. How can nitrogen be lost?
When animal waste is exposed to weather conditions in an open lot system
9. How are nutrients in animal manure and commercial fertilizers different?
Plant nutrients in commercial fertilizers are mostly water soluble and readily available for plant uptake. Not all the nutrients in manure are available to crops during the year of application because some are in their organic form, while others can be lost during application.

10. Are nutrients in animal manure as effective as commercial fertilizers?

Nutrients in animal manure are as effective as commercial fertilizers for improving crop production if used properly

11. What are the 8 steps to make sure manure is an effective source of nutrients? Briefly explain each.

- 1) Test soils- soil test report indicates the amount of nutrients that the soil can supply and recommends the amount needed from other sources.
- 2) Analyze manure-Take samples before spreading manure. Results should include dry matter contents as well as N, P, and K contents.
- 3) Determine when to apply -Applying manure just before planting or at peak growing stages gives plants the best chance to use the nutrients. It also reduces the chance of nutrient runoff.
- 4) Determine how much to apply-This will ensure you apply enough nutrients for your yield goal but not more nutrients than the crop needs.
- 5) Calibrate manure spreader-By calibrating the equipment, you can guard against applying too much or too little manure per acre.
- 6) Use supplemental fertilizer as needed-Extra N may be needed if application rates are based on P. Phosphorus and K can build up in the soil if manure is used to meet the N needs of a crop.
- 7) Consider conservation measures-Maintaining grass waterways, buffer strips, and other water quality practices will help prevent nutrients from reaching nearby water supplies.
- 8) Review nutrient management plan frequently-As the operation changes, so will your nutrient needs. Changes in land use, numbers of livestock, feeding programs, and application methods all affect the amount of nutrients available for crop use.