

Unit D

Animal Management

Lesson 2

Managing Animal Waste

Terms

- Fertilizer
- Global climate change
- Greenhouse effect
- Manure
- Methane
- Nitrate
- Organic matter

What qualities does manure have?

- I. ***Manure*** is a byproduct of raising animals.
 - ❖ It is used for energy, organic matter, and as a fertilizer for crops.
 - ❖ Manure has value because of its contents.

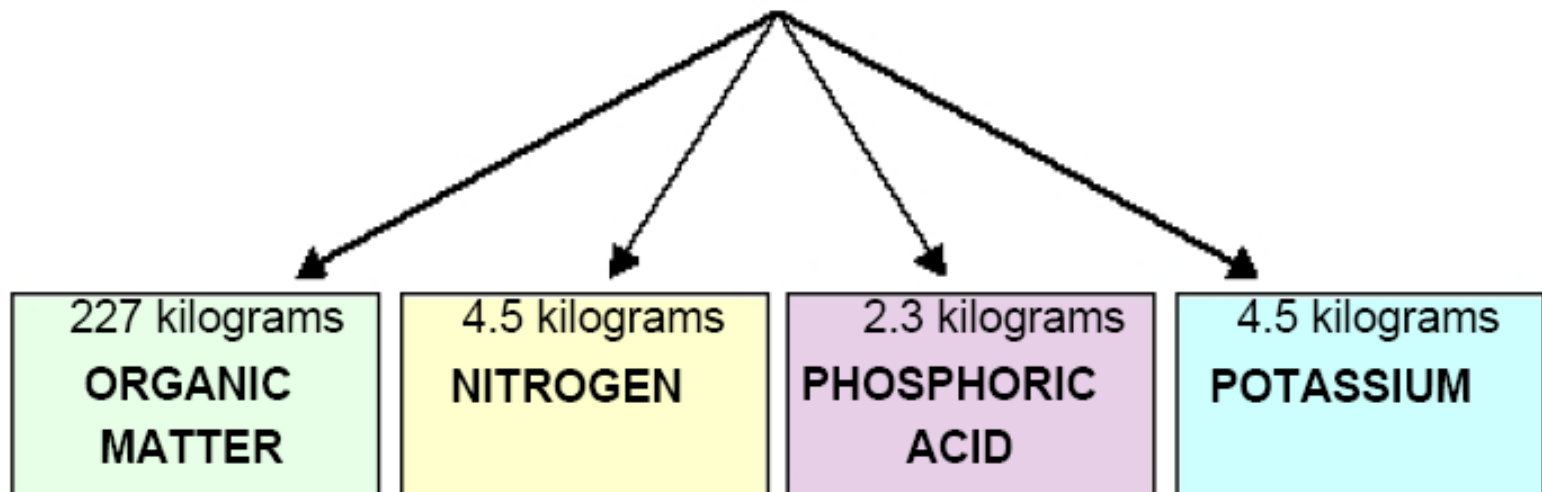
A. Since manure is produced by all animals raised, it is very available and inexpensive.

- ❖ 909 kilograms of manure contains an average of 227 kilograms organic matter, 4.5 kilograms nitrogen, 2.3 kilograms phosphoric acid, and 4.5 kilograms of potassium. Since plants need all of these to grow successfully, it is a great source of fertilizer.
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THE QUALITIES OF MANURE

909 kilograms Average Manure Contains



- B. Manure requires equipment and time to utilize in the fields to grow crops.
- ❖ Commercial fertilizers have taken the place of manure on many fields in other parts of the world.
 - ❖ The advantage of manure over commercial fertilizers is that it contains organic matter in addition to nutrients.

Manure Spreader



- c. Since fertilizers are oil and petroleum based some are concerned that the energy crisis will lead to high priced fertilizer.
- ❖ Manure is being used more often in recent years by farmers that are returning to organic means.

Spreading manure in place of fertilizers



What are uses and value of manure?

- II. Manure has great value and several uses
 - A. The value of manure depends on a couple specific factors:
 1. Kinds of animals producing the manure
 2. What feed the animals are consuming and how much of the nutrients are going to the animals
 3. How the manure is handled
 4. How the manure is managed during application to crops
 5. What kind of soil, crops, and slope of the land the manure is applied to

B. Uses of manure vary but include:

1. Fertilizer
2. Organic matter
3. Increased crop yields for many years
4. Can be used on both crop fields and pasture or range areas

Manure collected for later application



C. **Organic matter** is dead plant and animal matter that originates from living organisms.

- ❖ **Fertilizer** is a material that contains nutrients needed by plants.

D. Care needs to be taken with applying too much manure because excess application can lead to salt problems and nitrate problems.

- ❖ **Nitrate** is the form of nitrogen used by plants.



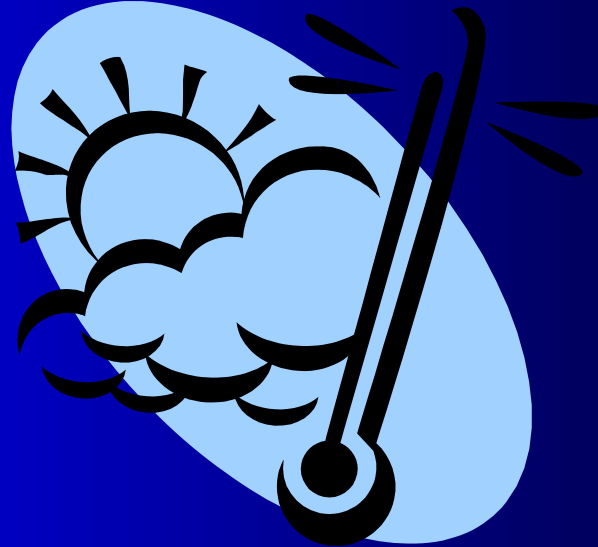
What environmental concerns are there with manure?

III. *There are some environmental concerns with the production of manure.*

A. The **greenhouse effect** is the term used to describe trapping of radiation in the lower atmosphere.

- ❖ Greenhouse gases have been increasing and therefore trap more heat.

- ❖ This may cause global climate changes over a period of time.
- ❖ ***Global climate change*** describes changes in global temperature and precipitation patterns.



B. Major greenhouse gases are carbon dioxide and methane.

- ❖ The increase of manure causes increase of methane in the atmosphere.
- ❖ In addition to manure, many other sources of methane production exist including landfills, oceans, coal, and many others.

- c. Currently and in the future, regulations are being made to decide how manure is stored and distributed.
 - ❖ It is important to remember that global warming may or may not be in progress.
 - ❖ Over the years there have been many trends in temperature including the ice age.
- D. In addition to domesticated animals, manure from wild animals also produces methane so it is difficult to track the problem.

Review/Summary

1. Describe qualities of manure.
2. List uses and value of manure.
3. Discuss environmental concerns with manure.