

Cover photos:

Top and bottom: Well housed livestock

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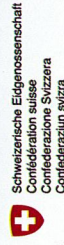
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Field application

- Always use well-decomposed manure. This is manure that is not hot, does not smell like ammonia, and it is difficult to recognise the original bedding material used.
- When delivered to the fields, manure should always be covered immediately. Most farmers leave manure exposed on the farms for long periods, which causes loss of nutrients. It can be applied in holes or in furrows.
- Hole application (apply 2 handfuls per hole).
- Furrow application (apply two handfuls per 1 m length of furrow).
- Cattle manure can be combined with inorganic fertilisers or other organic sources of nutrients (such as rock phosphate) to improve crop yields.

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Good management of cattle manure for enhanced productivity



A pamphlet for use by extension personnel
and farmers in Kenya

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For more information contact the nearest office of the
Ministry of Agriculture extension agents

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IMPORTANCE OF CATTLE MANURE

- Cattle manure is one of the resources readily available for soil fertility management on smallholder farms.
- However, it is often of low quality due to poor management.
- Good manure management is important to obtain high quality manure that improves crop productivity.
- Cattle manure provides organic matter into the soil, which is important for:
 - Maintaining plant nutrients in a form that is readily available to plants, but not easily leached.
 - Maintaining soil structure and holding soil particles together, thus reducing potential for erosion.
 - Stimulating the activity of soil micro-organisms.
 - Moisture retention and regulation of soil temperature.

How to prepare good quality manure

- The cattle boma should be roofed to avoid leaching of plant nutrients into the soil during the rains.
- Sufficient bedding to absorb the urine should also be provided. This will avoid losses of nitrogen to the air. Loss of nitrogen into the air is indicated by a strong smell of ammonia around the cow shed.
- It is advisable to use high quality bedding material such as *Tithonia* and legume stovers.
- After removal of manure from the cow shed, it should be stored while covered (for curing) for about 2 to 3 months depending on the bedding material used.
- The manure can also be composted together with other materials (such as crop residues and wood ash).

GOOD MANURE MANAGEMENT



Roofed cowshed



Covered manure prevents nutrient losses

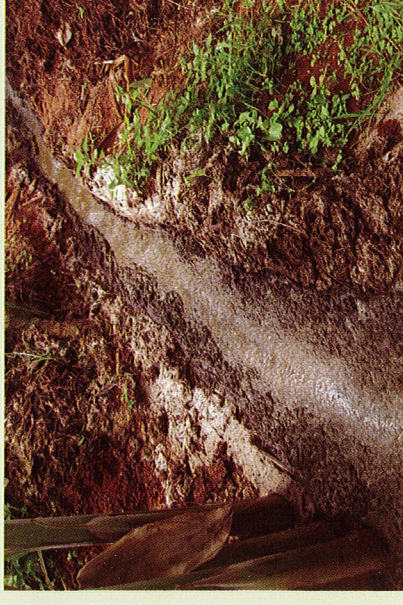


Manure covered with grass

POOR MANURE MANAGEMENT



Open cowshed



Nutrients are leached from uncovered manure



Nitrogen is lost through the air from uncovered manure