

MEASURE AND MANAGE

Manure Sampling Procedures

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Farmer's sample manure

- To determine, in advance, the amount and kind of nutrients to be applied
- To help determine additional nutrients required.

Sampling Liquid Manure

For liquid manure, take a sample each time the storage is emptied. Manure applied from a storage emptied in spring will be different from the manure applied from the same storage emptied in late summer.

Agitate the storage completely. In a plastic pail collect samples from various depths of the storage, as it is being emptied. Mix 10 to 20 of these samples thoroughly and transfer a portion to a plastic jar.

The jar should only be half full to avoid gas build-up and explosion. Seal it tightly and put it in a plastic bag that is securely tied. Store the sample in a cool place until shipping.

Sampling Solid Manure

For solid manure, take a sample every time the storage is emptied until a trend becomes evident. Then you can sample every few years or when you make a major change in manure sources or in management. These can include changes to ration, bedding or storage methods.

Solid manure is more difficult to sample randomly. On clean cement or plywood, take samples (a forkful) of manure from various loads leaving the pile or from various parts of the pile. Chop the manure with a shovel or fork and mix the samples together as thoroughly as possible.

Divide the manure into 4 portions and discard 3. Continue mixing and dividing the manure until you can fill a plastic jar or shipping container- about half a litre.

Place the tightly covered sample in a plastic bag and store it in a cool place until shipping.

Manure Varies from Farm to Farm

Several factors affect the quantity of nutrients in manure. Some classes of livestock have higher manure nutrient contents. For example, poultry manure usually has a higher value for all nutrients than dairy manure. Within the poultry category, broiler manure is usually higher in nutrient value, especially phosphorus and potassium, than manure from laying hens.

The nutrient content of manure usually reflects the type or ration being fed to the livestock. Thus, manure from young animals being fed a concentrated ration has a higher nutrient content than livestock fed a lower quality feed. Properly balanced rations give optimum performance with the least throughput into the manure.

The amount and type of bedding affects the concentration of nutrients in the manure (dilution) and may influence the nitrogen available for a crop. Wood chips or wood shavings have a higher carbon-to-nitrogen ratio (500:1) than grain straw (80:1). The higher the carbon-to-nitrogen ratio, the more nitrogen can be tied up while the carbon compounds are being broken down, affecting the amount of nitrogen available.

Added liquids from any source dilute the nutrient content of the manure. A dairy manure with added milkhous washwater and yard runoff needs a much higher application rate for similar nutrients, than for example, hog manure from a barn with wet-dry feeders.

Losses from storage can have a large impact on the nutrient content of manure. Runoff from a solid manure pile can carry away a significant portion of the nitrogen and potassium, while most of the phosphorus remains bound in solid forms. This is not only an environmental risk but also a waste of resources.

NOTE: Ship manure samples early in the week so that they reach the lab before the weekend.