THE PFEIFFER FOUNDATION, INC.
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# INSTRUCTIONS FOR THE USE OF THE B.D. COMPOST STARTER IN THE LOAFING BARN

Manure in a loafing barn or pen is mixed with litter and "grows" with the amount of new litter being added. It is customary to let it grow until the depth of the manure is at least 3 and often 4-5 feet deep. The manure is taken out 1, 2 or 3 times a year, according to the situation.

The manure plus the litter on the top is usually loose and, if not much litter is added, wet and juicy. If too much litter is added, it will be very dry. Either extreme should be avoided. The amount of litter to be added is regulated by the number of cows, steers, etc., penned up and the size of the pen or yart. The manure in the layers beneath the top is trampled down and becomes compact.

The treatment of manure in the loafing barn differs somewhat from composting in piles since there are two problesm involved - the loose, aerobic condition on the surface and the tight, aerobic condition beneath. The application rate of the B.D. Compost Starter for compost piles is 1 unit per ton of material. The weight of the manure in the loafing barn can only be estimated, and the surface in square feet, as well as the depth in inches or feet, are used as a measure. The following can be used as a guide.

Schedule A:

1. 1 inch of moderately moist manure weighs about 2 tons when the surface is 1,000 square feet and the manure is packed.
2. 1 foot of moderately moist, packed manure weighs about 24-25 tons when the surface is 1,000 square feet.

Schedule B:

1 inch of loose manure (top layer) plus litter may be half as much. If there is already a layer of manure in the barn or pen, figure out the square feet of surface and the thickness of the layer.

Schedule A, Bottom Layer:

1. Each inch of thickness and 1,000 square feet of surface is equal to 2 tons of manure and 2 units of Starter should be applied.
2. Each foot of thickness and 1,000 square feet of surface is equal to 24 tons of manure and 24 units of Starter should be applied.

Schedule B, Top Layer:

1. Each 2 inches and 1,000 square feet of top surface is equal to 1 ton and 1 unit of Starter should be applied.

There will be a slight fluctuation of moisture, litter, weights, etc., which should not be disturbing if the above pattern is followed in general.

The manure in the deeper layers will gradually become aerobic, but after the initial treatment of the top surface, this will only mean that it is well preserved. In fact, loafing barn manure is one of the best preserved manures. The structure of the top layer is important in order to get the best results.

Too loose a structure should be avoided. This can happen if too much litter is added and not enough livestock is kept in the barn and the litter is not trampled down. On the other hand, if the manure and litter are too wet, there is a danger of losing nitrogen and an inferior manure compost will result. In order to improve this situation, the use of more litter or more frequent applications of litter (whichever is preferable) is necessary.

The best litter and manure are obtained by using short or shredded straw or old chopped hay. Shredded corn stalks make excellent litter. Corn cobs can be used if they are ground up. In some cases, sawdust and/or peat are used. Sawdust will do, but since it contains less nitrogen, more of the compost will have to be applied per acre than is necessary when using other types of litter. Peat has a high absorbing power and, since peat sources are very different in nitrogen content, the resulting composts will vary. The addition of phosphates in small to moderate amounts is not objectionable, but the addition of ammonium sulphates or nitrates will lead to nitrogen losses.

Preparation of the B.D. Compost Starter:

Calculate the amount of Starter needed (too much will do no harm except for the extra cost), measure the amount, place it in a cup or tin can, moisten with lukewarm water (enough to make a thick paste), stir thoroughly so that all the Starter is well moistened and keep at room temperature for 12-24 hours. This will re-activate the Starter.

Spraying the Starter Solution:

Dilute the moistened Starter in enough water to cover the surface of the area to be sprayed, stir thoroughly so that the Starter is evenly distributed in the water and spray over the surface of the manure and litter while it is being added. The amount of water required is regulated by the spraying equipment used. Almost any type of sprayer can be used, from an ordinary old-fashioned spray can to a pressure hand sprayer or knapsack sprayer (Indian fire pump) or a pressure pump sprayer hooked up to a spray rig or tractor. The Starter has been screened through a #35 mesh screen (.0197" or 0.5 mm.), so that it will pass through a nozzle that size or larger. An ellipsoid nozzle is preferable.

In order to determine the exact amount of water needed for a given area, make a trial test with plain water in the spray equipment. The amount of water which will cover the entire surface to be sprayed is the amount to use for diluting the re-activated Starter. The idea is to see that the Starter solution is evenly distributed over the entire surface.

APPLICATION OF THE STARTER TO ALREADY EXISTING LAYERS OF MANURE:
If there is already a thick layer of manure present, make vertical holes of varying depths throughout the layer, checkerboard fashion, about 2 feet distant from hole to hole. Fill each hole with the Starter solution, then proceed in the manner already described, spraying the entire surface according to directions. CAUTION: Chlorinated water should not be used for re-activating the Starter. If no other water is available, the chlorinated water should be exposed to direct sunlight for a few days to allow the chlorine to evaporate. Spray equipment which has been used for other purposes should be thoroughly washed with lye or soda, then rinsed in clear water several times in order to remove any adhering residue.
SUGGESTION: The quality of the manure and the growth of the bacteria can be enhanced by sprinkling a few shovelsful of topsoil on the surface before adding new litter. The soil should be sprinkled thin, like sugar on a pie.