

## DUAL PURPOSE MODULE TRUCK

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### Abstract

A standard cotton module truck was modified to perform additional functions. Some of these functions include the deposition of gin trash in even ricks in harvested cotton fields and the picking up and spreading the gin trash after the gin trash has been composted.

Modifications include 9 sets of rollers and chains. The chains are No. 80-20H instead of the usual 60-20H and thereby are 50% stronger than the 60-20 chains. While standard module trucks ordinarily have 12 rows of chains instead of 9 rows, the overall weight of the "live bottom" of this truck is lighter yet stronger due to the arrangement of chains and rollers.

Additionally, longer tines or "claws" are used on the spreader-loader attachment in order to facilitate the movement of materials such as cotton burs and gin trash as well as cotton modules, hay and several other like materials.

Maximum potential of this design is realized when gin trash is composted, as the truck can haul gin trash from a cotton gin to a farmer's field and spread it out in ricks. When the composting process is complete, the truck can be used to pick up the composted material and spread it on fields where it may be plowed under to increase the organic matter content of the soil.

A process was developed whereby cotton gin trash could be composted in about 30 days. This time may vary, depending upon ambient temperature. Ricks are wet down with water which contains a special inoculant, turned once per week or as often as necessary, and closely monitored for temperature.

Moderate temperatures are desired and are produced by the organisms in the inoculant plus the ones normally present in the soil and gin trash.

The process is closely monitored with the aid of thermometers having long probes. We wish to avoid hot spots or too much heat in any case. Conversely, if the mass is too cool, it is a sign that it is time to aerate, add water and inoculant again.

The inoculant is a mixture of nutrients plus some facultative anaerobes, which include but are not limited to Aspergillus niger, Aspergillus oryza, Bacillus subtilis, et al.

Fully composted material no longer looks like gin trash, but is dark brown in color, resembles coffee grounds and smells like freshly plowed earth. This is true, even if some type of animal manure was added as an inoculant or as a component of an inoculant.

After completion of the composting process, the modified truck can be used to pick up the ricks and spread the compost onto fields.

The spreader-loader attachment may be swung up over the truck or it may be removed altogether as it is held in place by pins which are easily removed. This allows the truck to be used as a standard module truck when such an attachment is not needed.

The cost of these modifications is in line with modifying any standard chassis to produce an ordinary module truck, or in the range of \$50,000 to \$55,000.

The advantages of such a flexible design are apparent. By a few innovations and for the same money, one can have a truck that can perform several jobs; not just one. As one would expect, these modifications are patented. Even so, one variation has already been proposed. It involves using the spreader-loader attachment to position a tarp over the back end of the truck after it is loaded. This prevents material from stringing out of the truck as it moves down the highway; an occurrence that violates laws in some states.

For further information, contact the manufacturer whose name, address and telephone number are listed below.

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