

# REPLACEMENT OF PESTICIDE DRUMS WITH BULK CONTAINERS IS GROWING

By Herb Day, Manager of Specialties, Stauffer Chemical Company, Agricultural Chemical Division

Bulk handling of pesticides is an idea whose time has come for lawn care companies. The use of mini-bulk containers in place of drums has been accepted readily by farmers since their introduction almost six years ago. The advantages far outweigh any possible disadvantages, providing the manufacturers, distributors and users follow the guidelines and regulations established by the EPA and DOT.

What is known as bulk handling is really a mini-bulk handling program for distributing liquid pesticides—primarily herbicides—from the distributor to the lawn care company or other users.

The basic manufacturer or formulator transports the pesticide in bulk to a transfer area where the product is pumped into the mini-bulk tanks. These tanks are portable and can be moved to and from the formulator or by the lawn care companies in place of the five and 55 gallon drums used previously. Some lawn care companies will be considering larger stationary tanks—1,000 gallons to 2,000 gallons. These tanks do not have to meet the DOT specifications of the portable mini-tanks but their use is subject to all other regulations and the construction should be compatible with the product to be placed in them. Our Betasan 4-E will be available in mini-bulk in 1982.

Usually mini-bulk tanks are between 150 and 300 gallons. DOT-57 contains the government

regulations spelling out the minimum requirements for mini-bulk tanks. (See special section below on DOT-57).

## Advantages

- Eliminates drum handling and disposal.
- Keeps a pesticide in one container and in one area.
- Improves accuracy in measuring because of metered pump attached to tank.
- Lends itself to a closed system handling of pesticides.

## Disadvantages

- Initial outlay for one or more tanks.
- Need for a separate storage area for tanks (maybe).
- May have to buy more chemical at one time than may be needed.

The advantages appear to outweigh the disadvantages as those who are using the mini-bulk system have discovered.

If you are considering going to mini-bulk handling the following will be helpful:

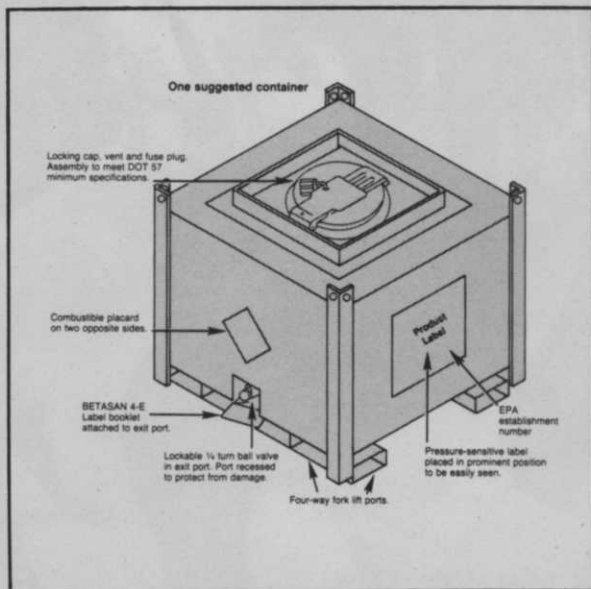
First of all, determine if the liquid pesticides you are or will be using are available for mini-bulk handling. Then purchase or lease the tank or tanks you need. The tanks have to meet DOT regulations (see below) which specifies metal tanks only.

● Determine if the tanks you purchase are compatible with the products you plan to put in them. The manufacturer or formulator should be able to give you guidance.

● Determine where your tanks will be located. If you purchase tanks and have them filled by your supplier at your location, you must have your tank location registered with EPA as an EPA pesticide establishment. If you only receive full tanks at your location, and only store the tanks there for your company's use as you would 55 gallon drums, your location does not have to be registered with EPA.

● Determine the size of the mini-tanks you need. DOT regulations state that the tanks must be between 110 and 660 gallons. The most popular sizes are 125, 200, 250 and 300 gallons. These tanks usually have about the same width and length and differ only in height to accommodate the added capacity.

● The DOT-approved tanks have a built-in or attached metering pump which can deliver the amount of product in a more efficient manner than can be accomplished by tipping a 55 gallon drum and measuring into a bucket.



Continues on page 44

There are several tank manufacturers making DOT-approved tanks. These include:

- Green Hills, Inc.
- Progress Industries
- Heartland Chemical Co.
- Hoover Universal Tote Systems

Some plastic tanks are being used where DOT-57 specifications are not required (as for liquid fertilizer). Two companies who produce these tanks are Snyder Industries and Poly Processing Co. The advantages of poly tanks are lighter weight and lower cost. Both companies are trying to get an exemption from DOT to permit the use of their tanks for combustible products including pesticides.

While mini-tanks do not have to be dedicated strictly to a specific product, they should be cleaned out thoroughly before switching to another product. Usually a good flushing with water will do an acceptable cleaning job. This rinse water can then be put in the spray tank and used. The filling cap on the tank should be kept locked at all times to prevent any contamination.

Determine what local fire codes might apply to the storage of pesticides in mini-bulk tanks and

follow their regulations. You may already be complying with local codes with your present pesticide storage.

When the regulations are followed, from EPA-established registration to the use of approved tanks, lawn care companies will find that the handling procedures will simplify and improve their operations.

The distributor or formulator who sells the lawn care company also has responsibility to comply with the regulations under DOT, OSHA and EPA.

If he is supplying the mini-bulk tanks, it is his obligation to see that they conform to DOT 57. If he is filling mini-tanks owned by the user, he must be sure that the mini-tanks have both the proper pesticide label and the DOT 57-approved metal certification plate affixed to the tank. If he is filling the tanks at the lawn care company's location, he must be sure the location is an EPA-registered establishment.

#### **DOT 57 Main Points**

These specifications apply to tanks of any shape:

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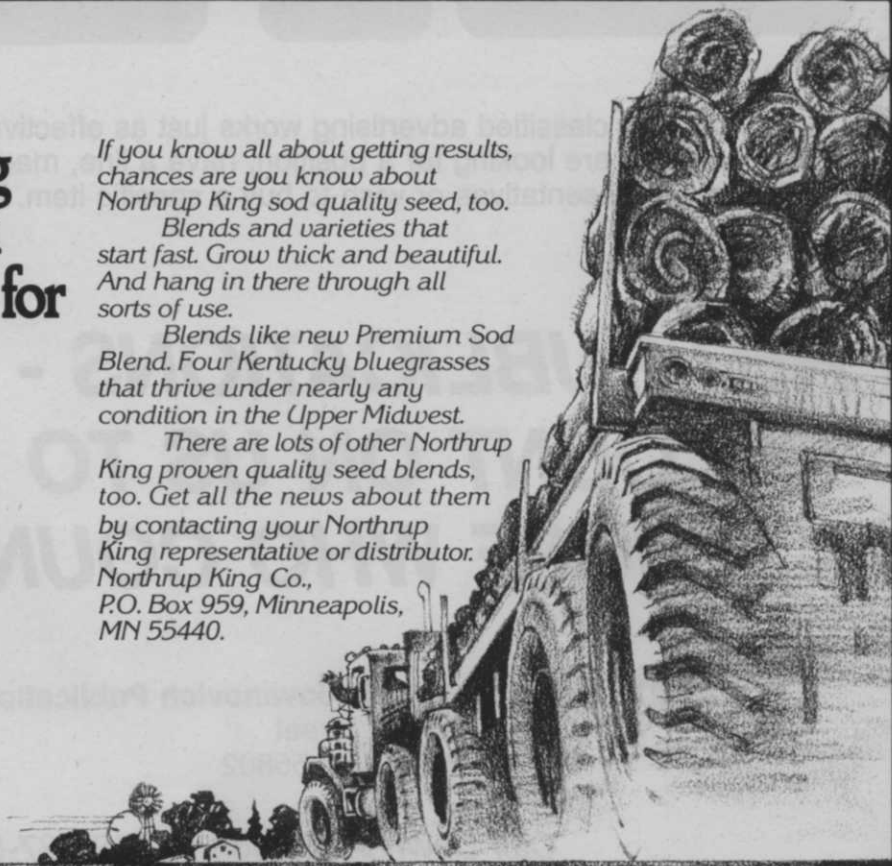


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**Bulk** from page 44

- Except for gaskets, pressure relief devices, valve sets, liners and linings, all construction material must be metal.
- Any material used must not be susceptible to stress corrosion cracking.
- Tanks must pass a series of tests including: design qualification testing; vibration and drop tests; structural integrity tests, for lifting devices, stocking support devices and fitting and protective devices; and production quality control testing and inspection.
- Each tank must have a capacity of at least 110 gallons but not more than 660 gallons.
- Each fill and discharge opening must be equipped with the proper closure device. Closures for a fill opening in excess of 20 square inches must be equipped with a device to prevent the closure from fully opening without first relieving internal pressure.
- Each fitting which could be damaged sufficiently to result in leakage of tank contents must be protected by suitable guards or protective housings.
- Each tank must be equipped with at least one pressure relief device such as a spring-loaded valve, frangible disc or fusible plug. **WTT**



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