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Circle No. 124 on Reader Service Card

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:

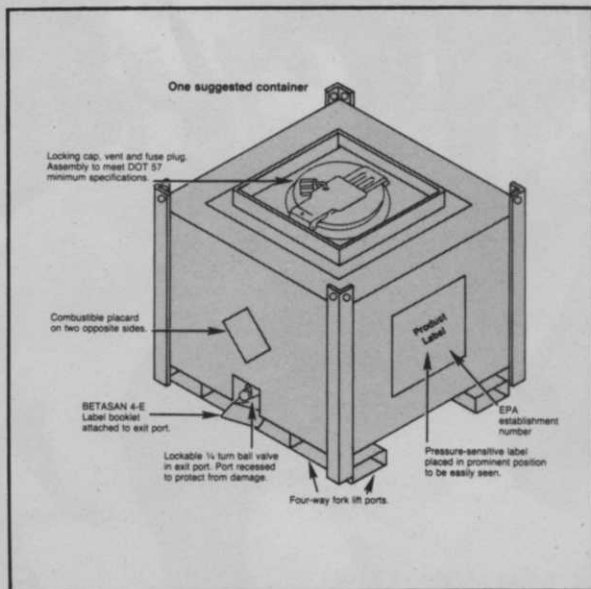
First of all, determine if the liquid pesticides you are or will be using are available for mini-bulk handling. Then purchase or lease the tank or tanks you need. The tanks have to meet DOT regulations (see below) which specifies metal tanks only.

● 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

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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:

Continues on page 46

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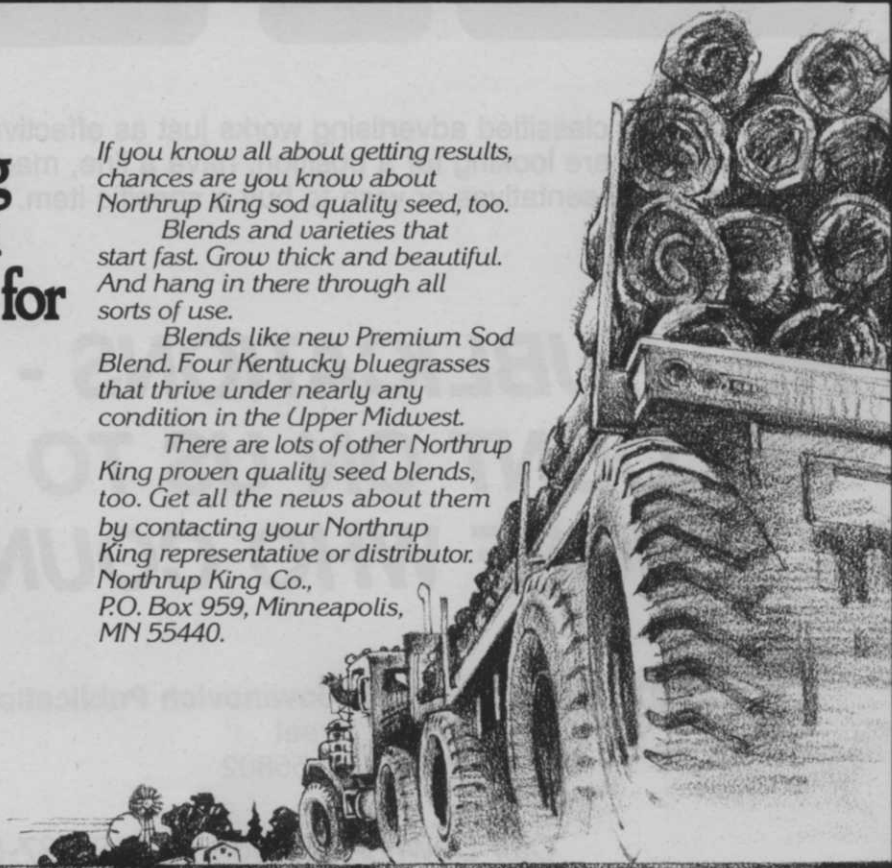


If you know all about getting results, chances are you know about Northrup King sod quality seed, too.

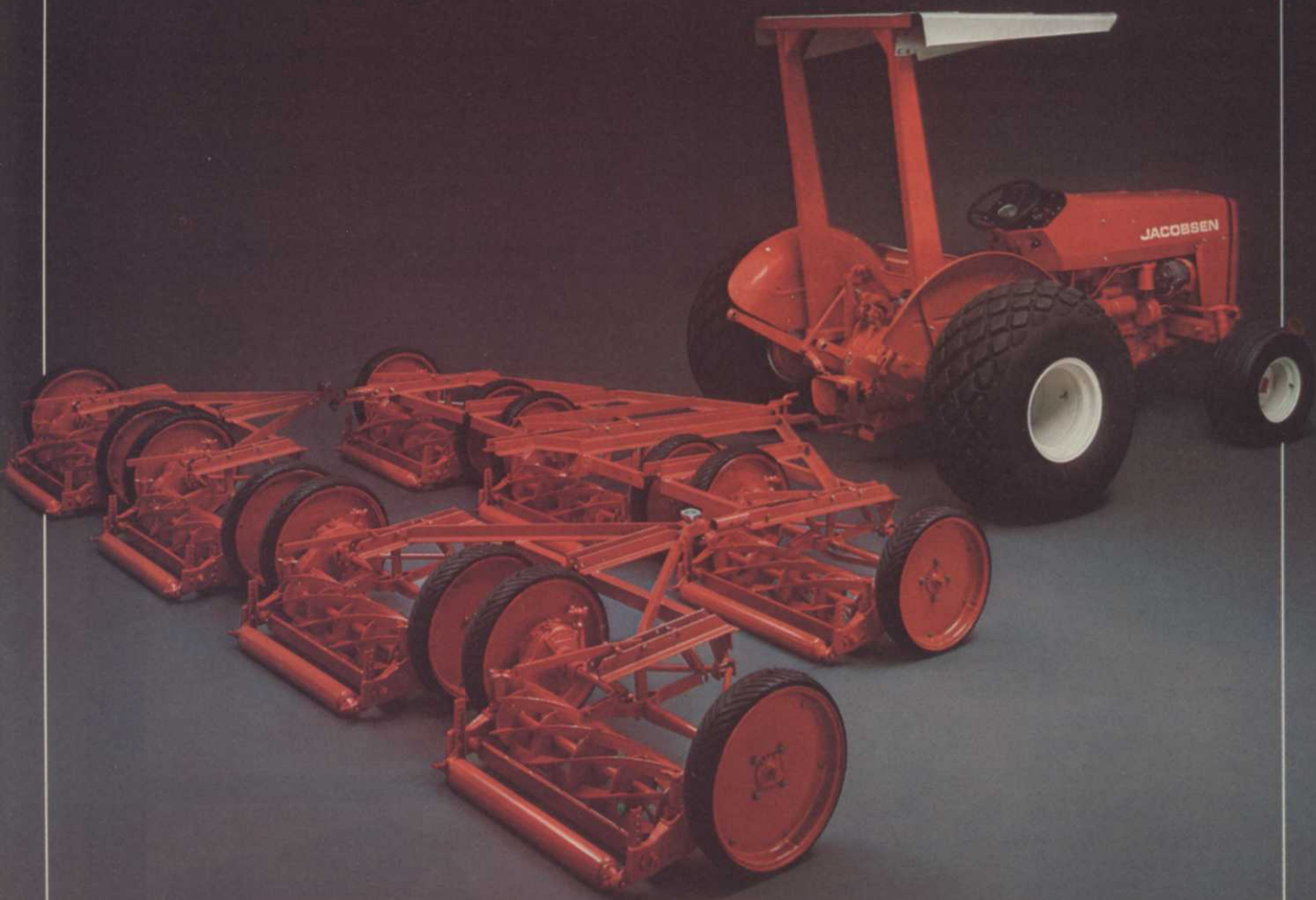
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Bulk from page 44

- 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**



FOUNDATION OBJECTIVES

- To promote scientific research in turfgrasses and related fields
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- To disseminate results of said investigations
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Healthy Turf Next Spring Starts With IBDU® This Fall

Sure, there's more to maintaining quality, disease-free turfgrass than a couple of fertilizer applications. But turfgrass scientists across the country are reporting that a fall application of IBDU (31-0-0) can produce turfgrass with better root development and less disease problems.

Dormant turfgrass plants continue to produce rhizomes and roots, even though vertical growth has stopped. During this time nitrogen should be made available to the turfgrass plant as carbohydrates are naturally accumulating. Thus, scientists say, the optimum timing for nitrogen applications is during the fall and early winter months.

IBDU (31-0-0) is ideally suited for dormant nitrogen fertilization. Because of its slow release characteris-

tics based on hydrolysis, IBDU releases nitrogen later in the fall and earlier in the spring promoting better rhizome and root growth. A fall fertilizer program using IBDU should produce healthier more vigorous turfgrass plants and reduce the severity of several turfgrass diseases.

Remember. Healthy turf next spring starts with IBDU this fall.

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Circle No. 111 on Reader Service Card

VEGETATION MANAGEMENT

By Roger Funk, Ph.D., Davey Tree Expert Co., Kent, Ohio

Q: Hybrid poplars planted in a development area have grown rapidly and sent out strong feeder roots which are lifting the curbs and sidewalks and erupting in blacktop areas. They also clog water and sanitary systems. The feeder roots seeking nourishment send out new leaf systems which erupt in lawns and driveways causing considerable damage.

We can not spray systemic herbicide because of wind drift and our only alternative seems to be to remove these trees. Other than girdling the tree, is there any injection that you could recommend to kill the tree and its damaging root system? If so, how long will the killing process take? (New York)

A: Garlon 3A, produced by Dow Chemical, is effective on poplars and can be used with the frill or girdle method or trunk injection on existing trees or as a stump treatment to the cambium immediately after cutting. All of these techniques are included on the label as cut surface treatments in right-of-way, other non-crop areas and forests to kill unwanted trees. As a precaution, you should not treat trees in close proximity to desirable trees, since, although Garlon 3A has a low potential for root transmission, all cut surface treatment chemicals may be passed through connecting root systems into adjacent trees.

Trees treated before bud break are normally dead by mid-June. Results from summer application may take longer but the effect can be seen on the outermost leaves in two to three weeks.

For more detailed information, contact your local cooperative extension agent or Dow Chemical representative.

Q: I realize this is not your normal technical question but could you tell me how to remove grass stains from children's clothes? Some of our clients feel that, since we are in the lawn care business, we have all the answers.

A: According to the American Institute of Laundering, the best way to remove grass stains from white fabrics is by a thorough washing with detergent and an ordinary household bleach. For colored fabric or wool, use denatured or rubbing alcohol. Place the stain face down on a clean rag or paper towel, pour the alcohol through the fabric and tamp it with your fingers. Move the stained area to a clean spot on the absorbent material and repeat the process until the stain disappears.

Q: Is it better to dethatch in the spring or fall? (Pennsylvania)

A: Cool-season turfgrasses should have a least a 30-day period of favorable growth conditions following mechanical dethatching. Both early spring and late summer are recommended, although spring may be less desirable because of the potential for summer heat and drought stress before the turfgrass fully recuperates and the increased potential for crabgrass.

Q: How important are mycorrhizae in the growth of trees?

A: There is much evidence that mycorrhizal fungi and roots of trees exist symbiotically. The tree supplies carbohydrates and other metabolized compounds beneficial to the fungus, and the fungus increases the absorption of nitrogen, phosphorus and other nutrients. There is also evidence that the mycorrhizal fungi protects the tree from pathogenic fungi by acting as a physical barrier and by secreting fungistatic substances.

Although trees can grow successfully without mycorrhizae in soils with high fertility, they appear to grow much better with mycorrhizae.

Q: Every year many of our client's lawns turn brown in the summer and we have trouble justifying a continuation of the program. Is summer dormancy caused by heat or moisture stress? If clients watered, would their lawns stay green? Most of the lawns are Kentucky bluegrass or mixture of bluegrass and fine fescue.

A: Summer dormancy is controlled mainly by the availability of water in most cool-season turf grasses, including Kentucky bluegrass and red fescue. Watering not only provides an adequate level of available moisture but also helps cool the turfgrass through evapotranspiration.

Q: What is your opinion of reseeding bluegrass lawns every year as practiced by some local lawn care companies? (Massachusetts)

A: Kentucky bluegrass is by nature self-renewing. Annual seeding into an existing lawn is almost always a waste of time unless bare spots are larger than about 8 inches in diameter. Your time and money are better spent improving growth conditions for existing grass.

Comment: Regarding my response to a reader inquiry on oil sprays which appeared in the August 1981 column, more recent information indicates that the caution statements on temperature are unnecessary.

Dr. Johnson reiterated his findings at the recent International Society of Arboriculture meeting in Boyne Falls, Michigan. He also feels that it is doubtful if there are any deciduous trees sensitive to lightsuperior oil if the dosages are in line with prescribed rates and the plants are not under moisture stress. For more detailed information, read Dr. Warren Johnson's article entitled "Spray Oils as Insecticides" which appeared in the July 1980 issue of the Journal of Arboriculture.

If any readers are aware of injury from superior oil which was applied properly, please let me know.

Send your questions or comments to: Vegetation Management c/o WEEDS TREES & TURF, 757 Third Avenue, New York, NY 10017. Leave at least two months for Roger Funk's response in this column.



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Introducing the first in a new generation of finer-leaved turf-type perennial ryegrasses.

Elka is the turfgrass bred for the '80's.

A brilliant green grass, it is a low growing variety which does not need pampering and requires less mowing than the better known turf-type perennial ryegrasses.

Elka offers many other advantages. Its leaves are far finer than other elite turf-type ryegrasses. Because it develops a measurably greater number of tillers per square inch, it produces a thicker, denser turf.

Elka germinates in a matter of 5-7 days under normal conditions and quickly develops a strong root system. However, its slower rate of vertical growth means it will not require

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mowing nearly so frequently as other ryegrasses.

While it has shown good resistance to most common turfgrass diseases, on one count Elka is a standout. It has shown excellent resistance to crown rust.

Elka will offer premium performance in areas of low to moderate humidity, but it should be blended with other turf-type ryegrasses such as Derby, Pennfine or Manhattan in regions where summers are very hot and humid.

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The crew spent much of its time in 1980 pruning trees damaged by ice in previous winters and planting more trees. More than 6,000 annuals were planted to improve the color of the course and clubhouse area. The dam to the holding pond was decorated with plants to spell out 1981 PGA. Television crews used this shot frequently during coverage.

Additional drainage helps the course survive rain before and during the tournament.

Help from his friends

The vast job to prepare for the tournament required a good staff and some help from former staffers. Ganley's staff of 24 included assistant superintendent Dave Nugent, a turf graduate of Mississippi State University; John Feruchie of Florida's Lake City Community College; and Mike Martin of North Carolina's Catawba Valley Technical College. From Forest Oaks, on a temporary basis, came Frank Harris and Kent Southern, both from North Carolina State University.

Bidding for more

The Atlanta Athletic Club has already submitted bids for the U.S. Open in 1987 and the PGA in 1991. With Ganley's help it stands a good chance of getting the tournaments.

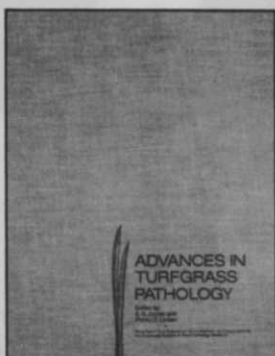
Tournaments are a business which makes money. This profit can be funnelled back into the course for improvements and expansion. The club members benefit, the professional golfers benefit, and the superintendent can better justify needed improvements to his course. It is a business where the superintendent's value is clearly visible.

On the other hand, superintendents have been known to lose their jobs following tournaments where the Club and Tournament Committee were disappointed. It's a high stakes game which all superintendents and their families may not want to play. Superintendents work long hours as it is.

As in Ganley's case, the Club must understand that additional, well-trained staff are needed in the months prior to a tournament. It must reward the superintendent for his heavier load. And, it must work with the PGA, the USGA, and perhaps the GCSAA to assure a playable and presentable course for the big moment. **WTT**

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