

REG. NO. 5209-1

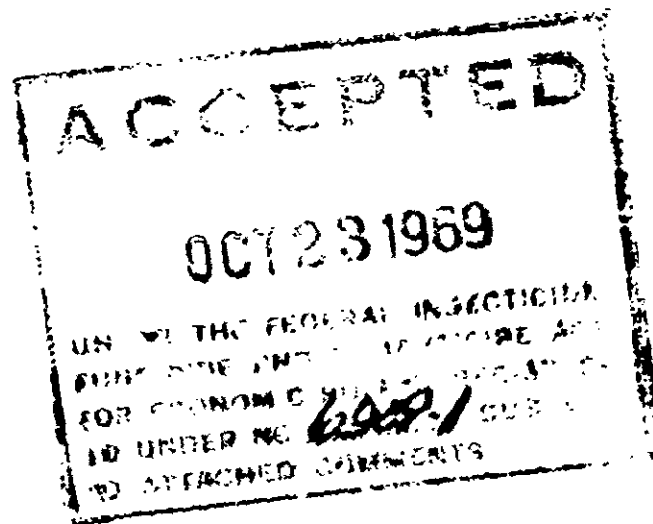
NET. WT. 4 OZ.

Rootox®

Prevents Roots In Sewers!
WITHOUT HARMING TREES OR SHRUBS
WHEN USED AS DIRECTED.

SIMPLE TO USE! Just Drop Tablet Into Toilet and Flush!

— TO REMOVE TABLETS —
PUSH THROUGH BACK



CAUTION: KEEP OUT OF REACH OF CHILDREN!
See back panel for additional cautions.



Just flush it down . . .

ROOTOX DOES THE REST

THE PROBLEM:

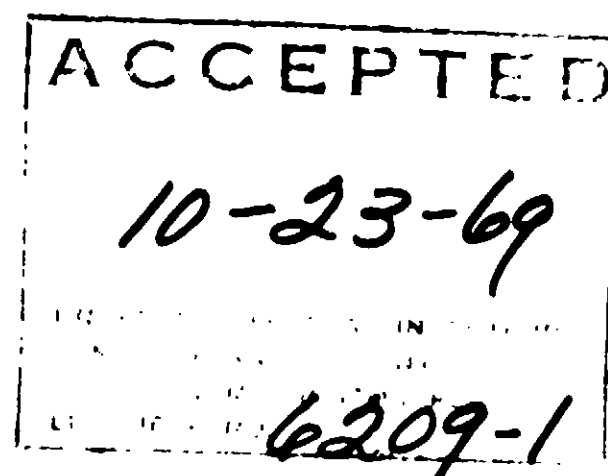
Penetration of roots of trees and shrubs in search for food and water is one of the major causes of sewer obstruction and bad odors. Accumulations of sticks, sand, stones, and grease are other causes of sewer stoppages. When flow is completely stopped, some flow should be restored mechanically before using ROOTOX.

WHAT IS ROOTOX?

ROOTOX is a compounded bolet whose toxic ingredient is copper sulfate pentahydrate. ROOTOX paralyzes the drinking mechanism of the root tips, thus resulting in local killing action. ROOTOX will dissolve readily in the presence of little or no flow. The loss of a small portion of an extensive root system of a tree or shrub is without consequence to the vitality of the plant. ROOTOX will not harm trees or shrubs.

HOW DO I APPLY ROOTOX?

Regular treatments are essential to control root growths. Always pick low flow periods. The worst root nuisances occur in soil lines connecting homes and buildings to street sewers. Effective treatment in these lines is obtained by flushing ROOTOX through the commodes of the homes and buildings. This can be done before retiring. It is not necessary to allow ROOTOX to dissolve in the commode. Place in commode and flush at once. *CAUTION:* Do not place ROOTOX in sink or tub drains or in contact with any chrome surfaces because of corrosive effect. ROOTOX is *harmless to septic tanks* when used as directed. Exact knowledge of the conditions in a sewer are generally not known, therefore, the amount of ROOTOX to use is suggested only as a guide to the problem of dosage. Good results will be obtained with more or less. Dosage should be repeated as often as necessary to maintain sewer free of roots.



Rootox[®]

...the answer to the prevention of roots in sewer pipes, in septic tanks and absorption fields.

Why roots are a problem.



About 10% of the wood mass of a tree or shrub is found underground in the form of roots. The root system of a tree is enormous. The total length of all roots of a big spreading oak tree amounts to many hundreds of miles.

The function of a root is to provide water and minerals for the tree and to anchor it securely to the ground. Roots have been called "Nature's drinking straws". A large tree sometimes needs 100 to 200 gallons of water a day to exist. Roots take the course of the least resistance to get water. They seek and find sewer lines, often quite close by in the well-landscaped city yard or rural yard. And, they sometimes travel long distances to find readily available sources of water.

Once a sewer line has been found, hair-like roots work their way through crevices or cracks in the joints of the clay or cast iron pipe, and once inside branch out and mat up. They continue to grow until the mass chokes the sewer pipe. When this occurs it may be necessary to clear the pipe through mechanical means.

Roots in a sewer line do more than just stop up sewage. Roots exert tremendous pressures and can damage pipes. Also, dammed-up sewage can cause obnoxious and dangerous gases to form in the system.



Illustrations of root growths removed from sewer lines. (A) Not treated with copper sulfate. Root 5' long, diameter at head about 6" wide and 1" thick at broadest portion. Growth had not filled pipe. (B) Not treated with copper sulfate. Root mass 4' long with 8" diameter, completely filled pipe. (C) Treated with copper sulfate. Root taken from 8" pipe having 1" stem where it breached joint. The 4' long mass was not obstructing the flow and disintegration was in an advanced stage as a result of the initial treatment with copper sulfate.

What is *Rootox*?

Rootox is the easiest to use and most economical to buy product to effectively control roots in your sewage system between your house or building and the city sewage main.

It is a rock-hard, easy to handle, blue-colored compressed tablet containing copper sulfate and a special slow-dissolving, water-soluble binder.

Rootox works inside your sewer pipes. The toxic liquid copper sulfate solution is absorbed by the hair roots while they are "drinking" water and absorbing minerals for the tree. The root is killed before the toxic copper travels very far. This results in only local killing action so that not even a leaf of the tree or shrub is discolored.

How to use *Rootox*

Drop a *Rootox* tablet into the toilet bowl and flush immediately; do not let the tablet dissolve in the toilet bowl water. Do this the last thing at night so *Rootox* can do its work while a minimum of water is flowing through the pipes.



Rootox will not harm the skin. It is not a strong acid or alkali, so gloves or tongs are not needed. However, add *Rootox* only in a porcelain toilet bowl. Copper sulfate reacts with and stains steel and chromium, so do not apply in sinks, or where steel traps are used.

When should *Rootox* be applied?

Rootox is only effective when roots in the sewer are actively "drinking" water; that is, when they are not dormant. In the Southern United States many trees and shrubs experience almost no prolonged periods of dormancy. In the Northern United States many trees are completely dormant during the winter. Call your local county agent to find out what periods of the year your trees are in dormant state.

How often should *Rootox* be applied?

For first time use apply one tablet of *Rootox* per week for the first four weeks. Afterwards, use one or two tablets per month minimum. These applications are given only as general instructions. Homeowners with heavily wooded lots with trees of more fibrous root systems may desire greater frequency of application.

Each homeowner should tailor the application program to length of sewer pipe, density of trees and shrubs, and periods of dormancy. Accurate records of application may assist in the formation of a sound application program.

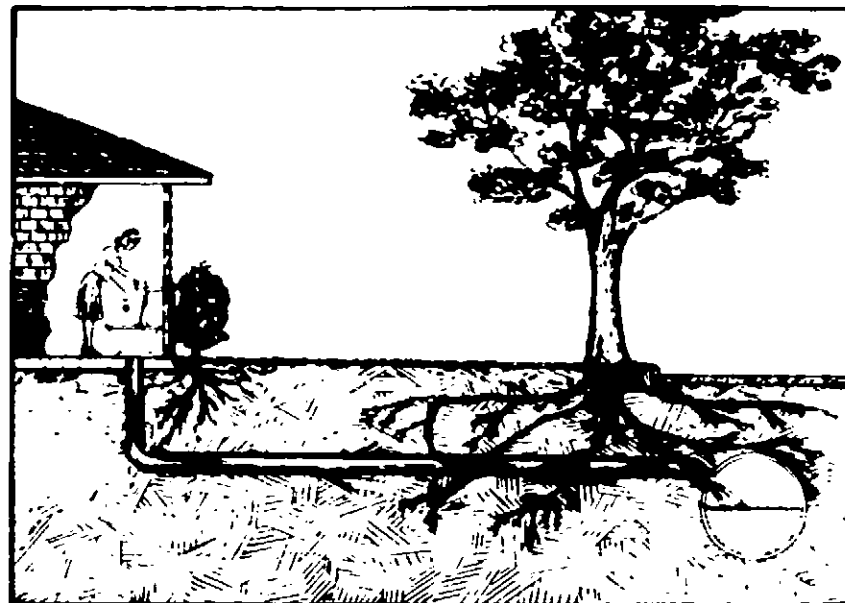
Rootox ...the efficient root preventative

What makes *Rootox* work so efficiently? *Rootox* is unique in that it is compounded as a tablet (bolet) made of copper sulfate crystals and a special binder that holds the tablet together.

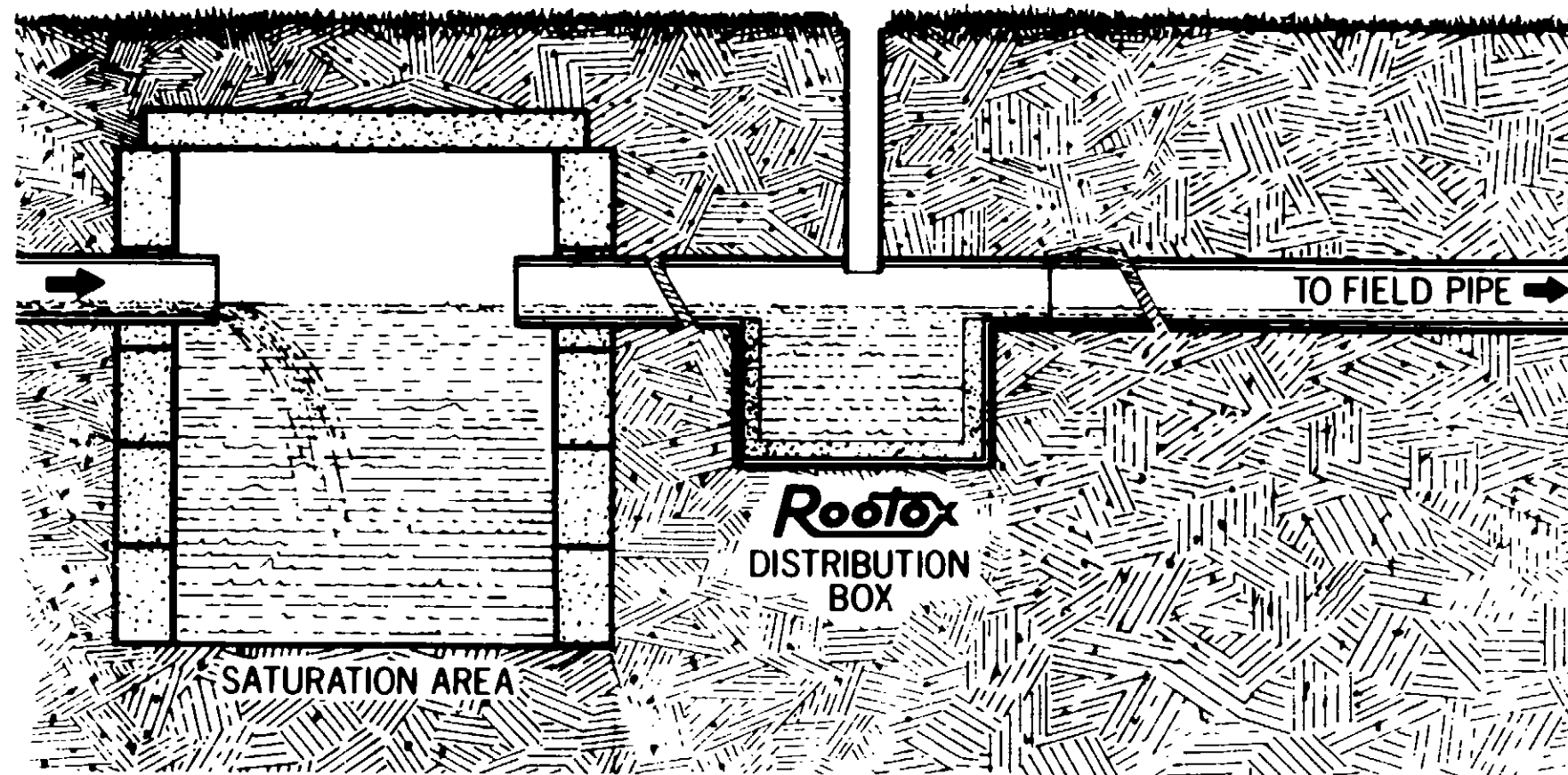
When it is immersed in water, or is in the presence of water, the special binder releases the crystals of copper sulfate at a controlled rate. Liquids in the sewer leach the copper sulfate, suspend it in a liquid solution, and carry it to the roots. The roots, unaware that the liquid they are absorbing contains copper, toxic to them, pass the copper bearing water into their stems and are killed.

Even the size and shape of the tablet of *Rootox* assists its efficiency. It is curved so that it will rest on the bottom of the standard cast iron or fired clay tile pipe that goes from the house or building to the city sewer main or septic tank.

Because the standard slope for sewer pipe is one foot of drop for each 50 feet of line, the *Rootox* tablet is not likely to be flushed into the city sewer or septic tank before its job is completed.



Rootox is convenient for the user to handle and requires no gloves or tongs to protect skin. It is conveniently packaged four tablets to a package so the user always knows the amount of *Rootox* remaining after an application is made.



Rootox ...safe and beneficial for septic tanks

There are over four million septic tanks in operation in the United States in rural and suburban areas. To assist homeowners with septic tanks a series of tests was run in 1952 at Purdue University to determine if copper sulfate in any way harmed septic tank operation. The report was published in *WATER AND SEWAGE WORKS* magazine.

Researchers found that normal addition of copper sulfate, the principal ingredient of *Rootox*, even in dosages as high as 8 lbs. per 300 gallons in a 15 day period did not affect the rate at which the solids would decompose. Researchers found no retardation of decomposition, but rather found that in control solutions of sewage copper sulfate had an effect of reducing the volume occupied by the settled sludge.

Because the copper sulfate tended to settle out in the septic tank it was found that roots growing into the tank were effectively subject to the same killing action as roots entering sewer pipes where *Rootox* had been placed.

To insure that absorption fields for septic tanks are kept free from root growth, each septic tank should be equipped with a concrete distribution box between the tank and field pipe such as illustrated above. A feature of the box should be a hole with cap in the top of the tank so that tablets of *Rootox* may be inserted into the tank. They fall rapidly to the bottom, the copper sulfate goes into solution, and the effectiveness of the copper sulfate's toxic action on roots is soon distributed to all parts of the absorption field.

Rootox ...for municipal use.

Copper sulfate, the active ingredient in *Rootox*, has long been accepted by municipal engineers as a useful compound to do two jobs:

1. Prevent root growth in sewer pipes
2. To assist in prevention of fungi and slime growths.

Rootox is a convenient, easy-to-use tablet, well adapted to municipal use because of its low cost and convenience of use. Re-packaging of the root preventative is unnecessary and thus increasing labor costs are reduced. The *Rootox* tablet, composed of copper sulfate in water-soluble binder, stays on the bottom of the sewer pipe until it has completely gone into solution.

Application of *Rootox* is made at open junction and terminal manholes above the spot where damming occurs due to roots. Choose periods of low flow so a more concentrated solution can reach the roots and kill them.

What about roots that enter large sewer pipes above the normal water level? Because the feeder roots eventually extend down into the water in their search for water and minerals these roots will absorb the toxic copper sulfate, and the killing back will extend some distance back from the actual contact point with copper sulfate.

Recommended Dosages: 4" lines, 2 tablets; 6" lines, 4 tablets; 8" lines 8 tablets; 10" lines, 12 tablets; and 12" lines, 14 tablets. Apply once a week for four weeks through manhole upstream from point of blockage and repeat as needed.



(Above) Illustration of actual flow obstruction by roots in 48" by 118" sewer. Because of the roots, sludge deposits formed. Roots penetrated the sewer several feet above normal water level. (Bottom) Roots removed from a lateral sewer in the yard of a normally landscaped yard in the Eastern United States.

...questions and answers.

- Q. What are the advantages of *Rootox* (copper sulfate in tablet form) over the use of copper sulfate crystals thrown into a toilet at regular intervals?
- A. The *Rootox* tablet is designed to stay in a sewer pipe and leach out copper sulfate in minute quantities over a period of time varying from one to four hours, depending on rate of flow and temperature of the system. Copper sulfate crystals tend to wash into the city sewer immediately, thus requiring larger "slugs" of doses of the crystals to obtain the same concentration as *Rootox* within the sewer system. Even products with water soluble membranes holding copper sulfate crystals sometimes release their crystals prematurely and waste the chemical.
- Rootox* is the only product with an exclusive tableting process to produce a slow-dissolving, even-acting copper sulfate solution.
- Q. My neighbor has weeping willow trees. Can I control the roots from his tree without killing the tree and causing an angry neighbor?
- A. *Rootox* can control even weeping willow roots with complete safety for the tree. The roots of the tree will seek other water sources once their supply has been cut off. Why not be a good neighbor and tell your neighbor about *Rootox* for his sewer pipes.
- Q. There isn't a weeping willow tree in our neighborhood. Should I still use *Rootox*?
- A. Even the beautiful rose bush can cause root problems. Every tree or shrub has a root system that supplies water and minerals to the plant.
- Q. Will *Rootox* clean out my sewer pipes?
- A. *Rootox* is not designed as a "one shot" root eliminator. Over a period of time the roots that have been killed by *Rootox* will naturally decompose and wash away. However, no "immediate" claims are made for *Rootox*. If root growth is great, mechanic removal may be the only answer. After this has been done, then use *Rootox* on a regular basis, to prevent root re-growth.



Top photo shows the corner of a typical home for military personnel at Sandia Base. The evergreen caused the root growth shown in the bottom photo in a lateral sewer line running to the main line. In this case the sewer line had to be relaid.

...what users say

"I almost gave up growing roses because of the trouble they gave me. roots in my sewer pipes. I have now used *Rootox* for years and have had no sewer problems."

Mrs. A.F.S., Minneapolis

"Our townhouse development was built in heavily wooded areas with a potential problem of roots in our lateral sewers. One of our association directors had used *Rootox* for years in a previous home. We adopted his suggestion and now have maintenance personnel apply *Rootox* in member homes on a regular basis. We have had no root problems."

Townhouse Association, Houston

"I put a package of *Rootox* in every home I sell and recommend it to every new owner. It has certainly cut the calls I used to have about the plumbing back-ups caused by roots in sewers."

Real Estate Dealer & Contractor, Houston

"The roots were so bad in my septic tank that they had lifted the concrete lid off the tank a half inch. My brother told me about *Rootox* and I flushed it into my septic tank. It has been a year and the roots are all rotted and my tank works better."

M.F.D., Brookshire, Tex.

"My nurseryman recommended *Rootox* to me almost 12 years ago and I have been a faithful user ever since. He has now gone out of business and I would like the name of a dealer where I can get it now."

Mr. G.C., Columbus, O.

"Several years ago I saw your exhibit at a fat stock show and was impressed by what you claimed for *Rootox*. I tried it myself and now suggest it to people who call me for advice."

County Agent, Texas

The Guarantee

Rootox is unconditionally guaranteed when used as directed.
If not satisfied, return unused portion and money will be refunded.

CREATORS OF
Custom Dried Cultures for Industry & Agriculture

12405 Sowden Rd. P.O. Box 14343 Houston, Texas 77044 (713) 411-4144