

Woodland News



Editor's Note: These are excerpts from "Pennsylvania Woodlands News," Vol. 5 Number 1, January/February 1991. Authors: Ellen A. Rom and James C. Finley, Instructors, Forest Resources Extension, The Pennsylvania University, January/February, 1991, Vol. 5, No. 1.

Do You Know How To Combat The Wrath Of Grapes?

From New Hampshire to Florida and westward to Kansas, wild grapes can be found all through the Appalachian hardwoods.

To the wildlife biologist, the birdlover, and the hunter, the fruit of the grapevines provide food and cover for a great variety of wild creatures. On the other side of the coin, to a forester and a timber grower, the vines can cause serious damage or even kill standing trees.

There have been studies conducted since the 1930s researching wild grapes' effects on trees and how to control them. Trees in

stands with heavy concentrations of grapevine grow slower, have smaller crowns, and suffer a higher mortality rate than trees without grapevines. Vines generally damage trees in four ways: 1) break the tops and limbs, 2) twist and bend the main stem, 3) submerge the tree foliage in large masses of grape leaves, which interferes with the trees photosynthesis, and 4) contribute to ice, snow, and wind damage by adding extra weight to the tree.

Here are some general facts about grapevines. Wild grapes reproduce naturally by seed or by sprouting from an existing stump or vine. These seeds can remain dormant for as long as eight years before germinating. Sprouting from the roots or stem tends to be very profuse and these sprouts grow very fast because they already have an established root and feeding system. Some sprouts have a measured growth of 15 feet or more in one growing season. But grape seedlings grow very slowly at first since they have to develop a new root system for themselves.

The vines climb by means of tendrils which they use to secure themselves to stems and twigs of vegetation within their reach. Observations are that they usually grow up with the tree. This suggests that the grapevine in the crown of an 80-year-old tree is also apt to be 80 years old.

Records from the U.S. Fish and Wildlife Service indicate that at least 80 species of birds and a large number of animals eat grapes. The grape plant supplies both food and cover for wildlife. Ripe grapes can be found on the vines from mid-August through mid-March. The peak abundance of fallen grapes available for game is usually at the beginning of November. The number of grape bunches on a vine is directly proportional to the vine's diameter. Larger vines produce more grapes.

Grapevines often grow profusely at the edges of forest stands and in small forest openings. If the trees are young enough and short enough, the vines work their way into the tops of the younger trees and then into the taller trees near them. They spread from tree top to tree top, deeper into the forest. This causes injuries to the stems and branches of younger trees.

The most serious injury from grapevines is the deformation and shading of tree crowns. As a tree reaches its maturity and slows its height growth, the grapevine that has been growing along with it continues to grow and spreads over the tree tops. The leaves from the vine shut off the sunlight to the tree's leaves below. The tree is then unable to synthesize food with the low amount of sunlight so

its growth slows to a very minimal rate. With added stresses on the tree like drought, gypsy moth, or a disease, it is more than the tree can handle and it perishes.

Effectively controlling grapevines in certain stand conditions is accomplished by severing the vines at ground level. This type of control has two advantages: it does not involve chemicals and thus escapes some criticism, and it is inexpensive. The disadvantage is that it is not effective under all conditions. Under the shade of a well-stocked forest where the trees are taller than 25 feet, the sprouts from the cut grape stumps will not be able to develop and regrow into the tree tops.

Grapevines are very intolerant of shaded condition. They must have a great deal of light to grow. Under the shade of a dense forest canopy, a vine will die in 2 to 3 years after being cut.

Severing the vines works as a control measure when it is done under a forest canopy that does not have big holes in it. If a selection cut or improvement cut is planned in a stand to open up holes in the canopy so the remaining trees will have room to grow, the vines should be cut several years before the trees are cut.

An attempt should be made to cut all vines in all trees, not just crop trees. The reason is that the grapevines will travel from one tree crown to another and infect the entire canopy over time. When a harvest is planned in an old stand of trees that are approaching maturity and a clearcut is recommended, grapevines should be cut at least 4 years before the harvest. The objective is to eliminate all vines so that their sprouts will not damage the new trees that emerge after the clearcut.

These are just some control recommendations. Some work is being done with herbicides, but more need to be developed that do not favor grapes. In young stands heavily infected with grapevines, a foliar application herbicide will kill all vegetation, but since the grape seeds remain viable for years in the soil, killing the other vegeta-

tion will enhance new seedling growth. More research is needed to find a better control for the grapevine in all situations.

— Betsy Gallace, Appleton Paper Co., in "Pennsylvania's Tree Farm News," December 1990

Forest Facts

For the average hardwood tree cut down to make lumber, half the total wood volume is left in the woods as tops, limbs, and logging residue; about a quarter is lost as sawdust, slabs, and edgings in the sawmill; another eighth disappears as shavings and machining residues, leaving about one eighth of the original volume that is sold as timber.

(Source: Bull. 703 WVU Agric. and Forestry Exp. Sta.)

• Of the approximately 600 U.S. mills producing pulp, paper, paperboard, or building products, 200 depend almost entirely on wastepaper for their raw material. Another 300 use 10-50 percent wastepaper in their manufacturing process.

Wood Number One In Energy Efficiency

A study by the Society of Wood Science and Technology show that wood is one of the most environmentally acceptable building materials available today.

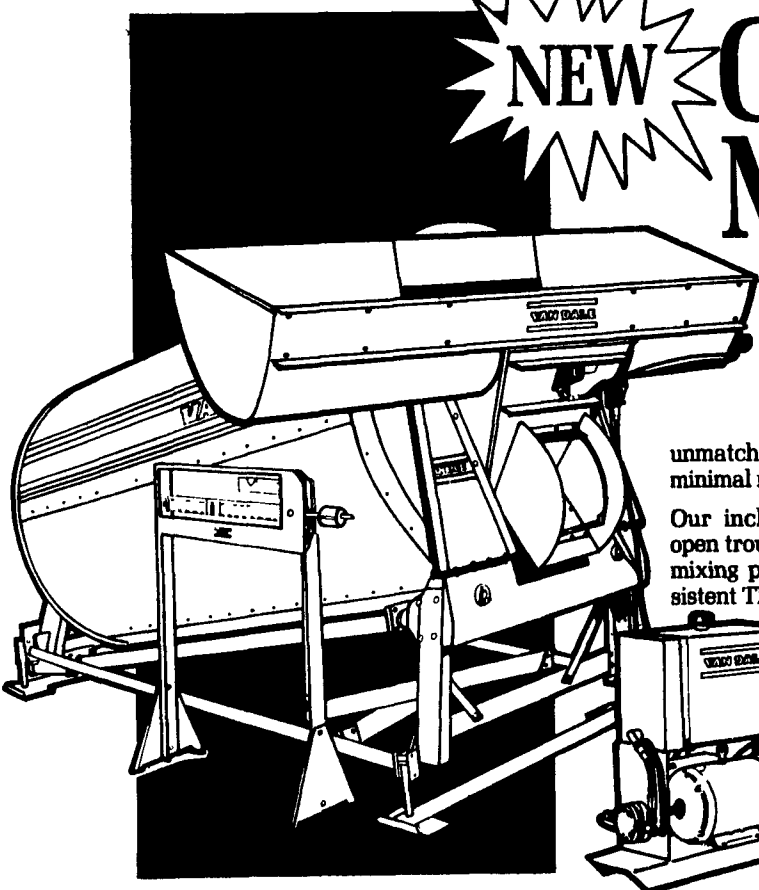
When the total energy costs (including those of harvesting, transportation, processing, and construction) are compared, wood far surpasses its competitors. For example, it takes six to eight times more energy to make a wall of brick veneer over sheathing than to make an all-wood wall.

Since raw material used to produce substitute construction materials are mostly imported, the environmental impact is actually higher. University of Minnesota researcher Jim Bower says, "When we import these materials, we are in effect exporting our pollution problems to other countries."

— "Forestry Environmental Program News," Nov. 1990, by NCASI.

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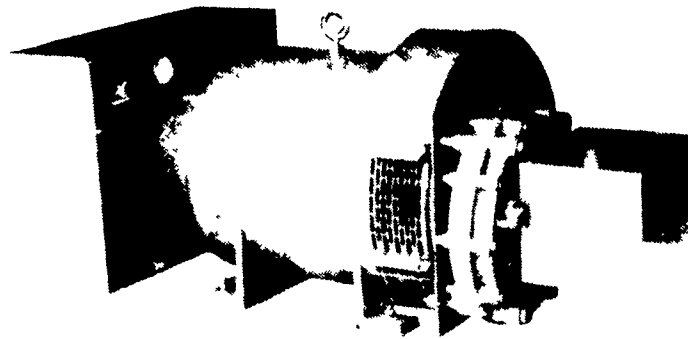
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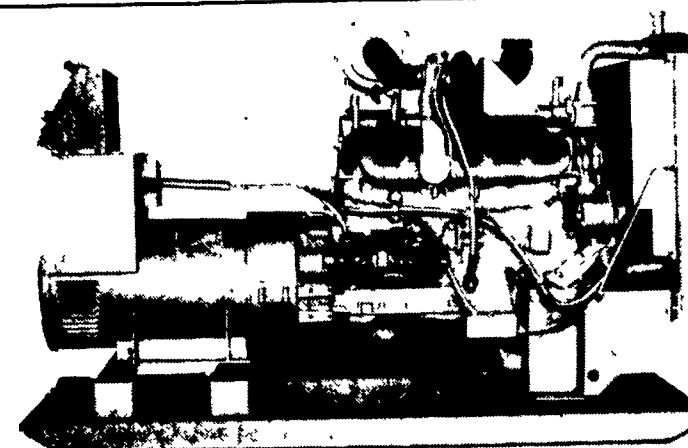
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