

FACT SHEET

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Imported Weeds and Fungi Can Become Serious Forest Problems

European colonists carried the seed of food and ornamental plants with them to their new homeland. They knew of the tendency for plants to escape cultivation, but in this time before herbicides and plant pest laws, such escape was thought to be inevitable. In 1897, the USDA started a program of systematic importation of plants for experimental purposes. More than 300,000 were imported between 1898 and 1967 by this program which is still active. One report says that 4,500 escaped species are known as pests in the U. S. and at least 15% are known to cause severe harm. The Weed Science Society of America has reported the aggregate damage from foreign plants imported between 1906 and 1991 as \$97 billion dollars. Current damage from imported plants is thought to be \$4.5 billion annually. Some of the imports have become devastating forest pests and because control is tremendously expensive the prediction is for them to worsen. In 1895, C. F. Millspaugh published a list of the 25 most common weeds in West Virginia. In 1975 another survey indicated that the list remained about the same except for nine newly added. The nine, discussed below, are important forest pests.

Kudzu, the wonder vine of the south, is an excellent example of an import causing great damage to forests. Kudzu is becoming more and more widespread in West Virginia with some colonies having taken over several acres. It is controllable, but complete control may take as many as 10 years and it is expensive to apply. In the southern U. S., kudzu vines may grow a foot a day and as much as 60 feet a season. A native of Asia, kudzu was probably first brought to the U. S. in 1876. It soon became a porch ornament across southern States and was used extensively as a livestock feed. As an inducement for planting, the USDA offered \$8 an acre. Three million acres were soon planted; now there are 9 million infested. The plant can grow to the very tops of trees and shade them to death. Woody plant reproduction is scarce to non-existent under the pests canopy.

Japanese Honeysuckle, another trailing vine from Asia, was imported as an ornamental for home gardens. It soon escaped to road banks, fence rows and forest edge openings where the soil had been disturbed. Now present throughout WV, it climbs tree trunks and its shade can kill trees or cause crooked stems. It is still promoted as a wildlife food, but it is also on nearly every list of the ten most harmful weeds. It is a significant threat to native plants.

Crown Vetch, from Europe, is widely used as a ground cover/road bank stabilizer, but its tangled mats of creeping stems also invades nearby forest edges. Its dense shade prevents the natural establishment of woody plants. It also takes over abandoned grassy fields, smothers out native plants and prevents natural woody plant succession.

Multiflora Rose, an import from Asia, was once distributed by the SCS as a living fence. Now its dense thickets occupy thousands of acres, is common in openings in forests, climbs trees with abandon and is extremely hard to eradicate.

Mile-A-Minute, from Asia, may soon be forestry's worst pest in clear cut areas. As the name implies, it moves rapidly and is hard to control. It appears in forest openings and spreads when the stand is harvested. It often hits log landings first. It seriously interferes with forest regeneration efforts.

Japanese Knotweed, introduced from Japan as an ornamental, is common on road banks throughout the state, and grows well on any soil in full sunlight. Once established, it provides total shade that prevents woody plants from seeding in. Its thickets are a special threat to riparian areas and they are a fire hazard after the first frost.

Autumn Olive, from Asia, has been distributed for years as a wildlife shrub. Soon recognized as a spreading, hard to control pest, the WV Legislature prohibited its planting in 22 counties. Unfortunately, the ban has not been enforced and the plant is now a statewide pest. Fortunately, it doesn't do well on moist sites or in densely forested areas, but it crowds out all other vegetation in sunny sites..

Purple Loosestrife, brought to the U. S. by settlers in the 1700s, occupies wetlands and open, moist riparian areas where it overwhelms all other species. Although somewhat new to WV, it is becoming increasingly common in moist to swampy fields where it disturbs wildlife habitat and prevents natural succession. Each plant can produce several million seeds per year.

Tree of Heaven , a fast-growing import from Asia, seeds in readily on disturbed soil. One tree can produce up to three million seeds per year. It rapidly takes over skid roads, surface mine slopes and fire-burned areas. It produces a toxin in the bark and leaves that inhibits the growth of other plants.

To the above list of exotic, invasive plants, we add certain imported fungi that have been especially hard on trees. Among these are:

Chestnut Blight, imported from Asia, initially spreading at a rate of 24 miles per year, has all but eliminated American Chestnut, once Appalachia's best and most abundant tree - one that once occupied up to 25% or more of the hardwood area. First reported in 1904 in NY, it had swept through WV by 1926. The havoc it caused led to the passage of the federal Plant Quarantine Act in 1912.

White Pine Blister Rust was introduced on planting stock from Asia in the early 1900s. It is a devastating disease of 5-needle pines that has caused millions of dollars to be spent for control. Gooseberries serve as the alternate hosts and millions have been eradicated in eastern and southern WV in an effort to control the disease.

The Dutch Elm Disease has nearly eliminated Elm from North American forest stands. It entered the U. S. on Elm logs from Europe sometime around 1930 and is mostly spread by the European elm bark beetle. There are several strains, some of which kill more rapidly than others. Resistant elms have been developed for ornamental purposes.

Our very mobile, essentially travel unregulated society, is redistributing plant and animal species at a rapid and alarming rate. The above problems are just a few of the dozens that the forest industry faces. Be vigilant and report all strange tree declines or deaths to the WV Division of Forestry at 304-558-2788.

(Prepared by William H. Gillespie)

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