



Forest Facts

VIRGINIA'S ALIEN INVADERS

NATIVE OR NOT?

Virginia is home to many plants and animals. Some are native to Virginia, meaning they have been here for thousands of years. Others are non-native, or alien. In this case, alien doesn't mean they came from another planet! It simply means they arrived or were brought here from somewhere else. They could be from as far away as Asia or Australia, or from just a few states away.

Some alien species cause no problems and are useful to us. Examples include many of the plants we grow for food, which originally came from other countries. Other aliens, such as honeybees, can live in the wild and become part of the natural environment. Species that do this are said to be **EMERALD ASH BORER** naturalized. But some alien species become invasive, meaning they cause harm to someone or something. This harm might be to the health of people, plants or animals; to people's ability to earn a living, or to the environment as a whole. Invasive species can include almost any kind of organism – plant, animal or pathogen (something which causes disease).



UPSETTING THE BALANCE

An ecosystem is a natural network of living things and their environment. Native ecosystems have developed over thousands of years. The plants, animals and nonliving parts, such as soil and water, all work together in balance. Introducing a new species can upset that balance, causing changes in the whole natural community. Let's use an invasive plant as an example. When an invasive plant crowds out native plants, the wildlife that eat the natives lose a food source. The invasive plant might crowd out trees like oaks, which are valued for their lumber, so people lose a source of income. If the invasive plant carries a disease that attacks a native plant, that species could be wiped out. An invasive plant takeover also decreases biodiversity – the overall number of different species in the area. The invasive plant might even change the soil chemistry or the amount of water available to other plants. As you can see, just one invader can change almost everything about the ecosystem.

ON THE MOVE

Some invasive species arrived in Virginia by accident. Seeds, insects or pathogens “hitchhiked” on people; plants; animals and soil, and even onboard ships and in containers. Others were first brought here for special purposes: for example, plants grown for their pretty flowers, animals to be sold as pets or moths for spinning silk. No one fully understands why some non-native species become invasive and others do not. We do know that invasive ones tend to have at least some of the following characteristics:

- ◆ They grow and reach maturity fast.
- ◆ They reproduce well.
- ◆ They have few or no natural predators or diseases to keep them in check.
- ◆ They can outcompete or overcome native species.

SEEDS STUCK TO BOOT

CAN WE STOP THEM?

Unfortunately, the number of invasive species is growing as global travel becomes easier and more common. The good news is that there ARE steps you can take to stop the spread of invasive species.

-  Learn to identify invasive species so you can watch out for them. Check one of the websites listed in the For More Information box for pictures and descriptions.
-  Don't plant any species known to be invasive. If you have invasive plants on your property now, get rid of them. Your local Extension office or Virginia Department of Forestry office can provide information on how to remove problem plants and suggest alternative species to plant.
-  Be careful not to move pieces of plants or seeds into new areas – either purposely by picking them, or accidentally on your shoes or clothing. Don't move firewood from other areas either, as invasive insects and pathogens are known to hitch rides on or inside wood.
-  Spread the word about invasive species. Teach others what you have learned, and encourage them to take action, too.

VIRGINIA'S LEAST WANTED

In Virginia, an alarming number of plants, animals and pathogens have already become invasive. Here are just a few of Virginia's worst alien invaders:

Plants: tree-of-heaven, Japanese stiltgrass, kudzu, autumn olive

Birds and mammals: wild hog, nutria, mute swan

Aquatic animals: snakehead fish, rapa whelk

Insects: gypsy moth, emerald ash borer, fire ant, Asian tiger mosquito

Pathogens: chestnut blight, thousand cankers disease, dogwood anthracnose, oak wilt

In addition to the aliens already here, there are a number of species that have invaded other states and could become a problem here. Examples include sudden oak death, Asian longhorned beetle and zebra mussel. Scientists are watching out for them and trying to keep them out of our state.



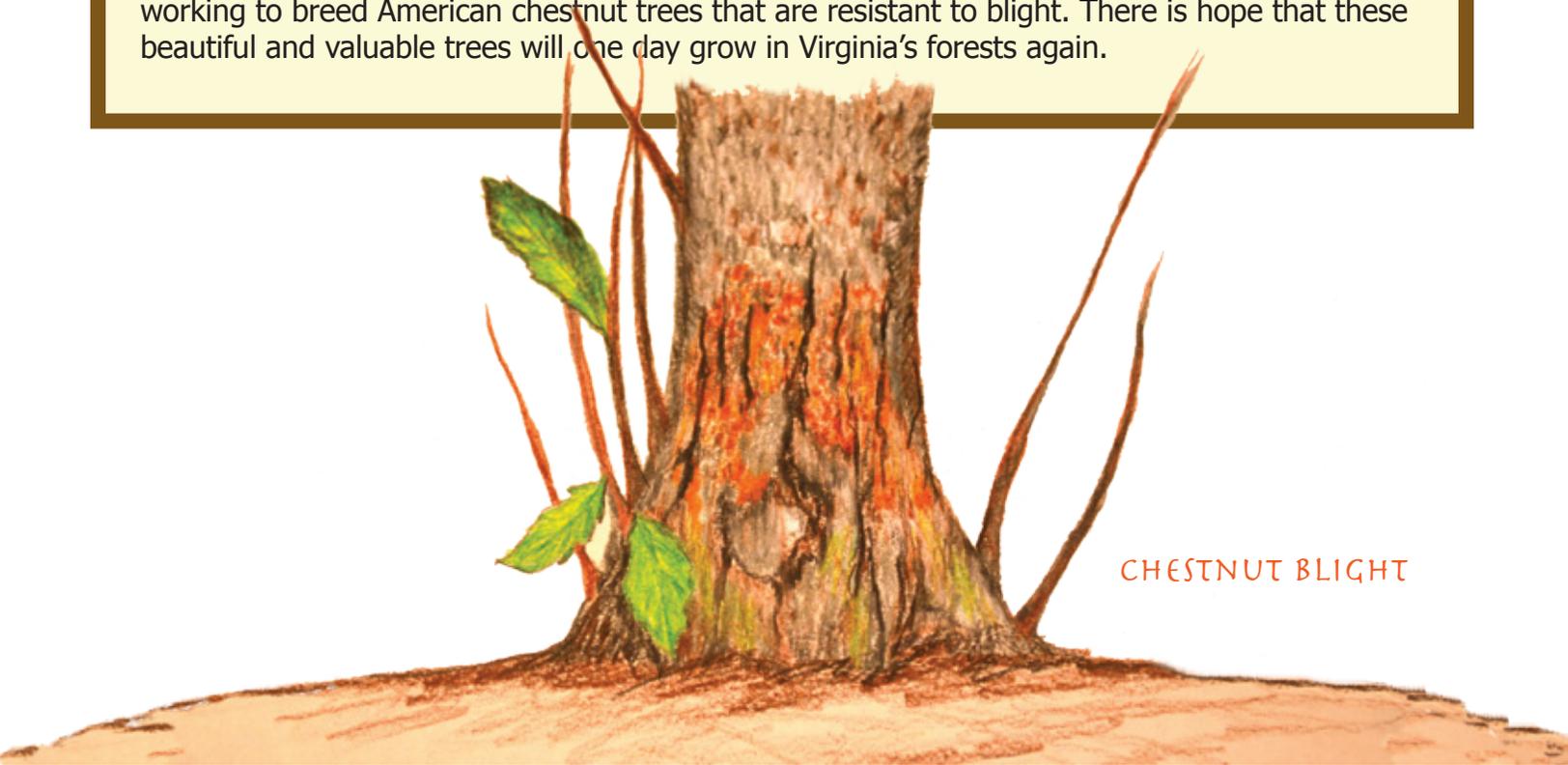
DOGWOOD
ANTHRACNOSE

WILD HOG



SPOTLIGHT ON CHESTNUT BLIGHT

American chestnut was once a tree of great importance in much of the eastern United States, including Virginia. Its nuts were a major food source for many animals and people, and its wood was used for building everything from homes and barns to floors and fences. In the early 1900s, chestnut blight fungus arrived in this country accidentally on Asian chestnut trees. Although the Asian trees were seldom affected by blight, the American trees had no resistance to it. In only 50 years, the great chestnut forests of the East were killed by this tiny fungus. Although the blight killed the parts of the trees above ground, many of the chestnut roots survive to this day. New trees sprout from the roots. But before they reach maturity, they are killed back by the blight. For many years, scientists from the VDOF and elsewhere have been working to breed American chestnut trees that are resistant to blight. There is hope that these beautiful and valuable trees will one day grow in Virginia's forests again.



CHESTNUT BLIGHT

FOR MORE INFORMATION

Visit these websites:

http://www.dcr.virginia.gov/natural_heritage/vaisc/

<http://www.invasivespeciesinfo.gov/unitedstates/va.shtml>

<http://www.invasive.org/species.cfm>

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