Emerging Threats

Emerging threats are not known to be present in the United States, but if introduced, they could threaten our native plant resources.

Scots Pine Blister Rust
*Cronartium flaccidum*

Native to Europe and Asia, **Scots pine blister rust** (SPBR) is an aggressive fungus that attacks a wide variety of hard pine species. Scots pine blister rust damages vascular tissue and kills the cambium of infested trees, leading to girdling, and eventual death.

While it is currently not known to be present in the U.S., an introduction would pose a serious risk to our Christmas tree and timber industries, as well as our forests. This exotic rust is more virulent than white pine blister rust, a related disease that has cost over one billion dollars to manage in the U.S.

If you notice a healthy tree suddenly showing unusual signs of damage or decline, this could indicate the presence of an invasive pest or pathogen.

**Signs & Symptoms**

- **A** Canker producing spores
- **B** Blister-like pustules
- **C&D** Top-kill caused by girdling canker

**Pathways**

Scots pine blister rust could be introduced into the U.S. on infected plant material, seedlings, or nursery stock. Once established, the disease could spread rapidly by wind and on infected plant material, making it difficult to contain.

**Hosts**

Tree hosts of SPBR include over 15 hard pines (pines with 2- or 3-needles per cluster). It is not known how susceptible native North American pines may be. Scots pine, which has been widely planted and naturalized in the U.S., is highly susceptible to this disease.

**On hard pines, look for...**

- Cankers on trunk and branches with excessive resin
- Seasonal cankers with blisters of orange-yellow spores
- Death of individual branches (flagging)
- Death of tree tops (top-kill)

Photos: A © Ola Borin, Swedish University of Ag. Sciences; B © Ondřej Zicha, www.biolib.cz; C © Hansson, Swedish Univ. of Agricultural Sciences; D © wikimedia
**Identifying Scots pine blister rust**

Scots pine blister rust can be impossible to detect, even when present, because it can lay dormant on a host for several years. However, when the fungus begins to produce spores, it becomes easy to recognize for brief periods of time.

### Blisters

Scots pine blister rust is easiest to recognize when fruiting. Blister-like pustules bearing orange-yellow spores will be present in the summer for about a month.

### Cankers

As the fungus grows, lesions spread along and around the trunk and branches, growing into resinous cankers that girdle and kill the tree.

---

**Take Action!**

1. **KNOW THE THREATS**
   
   Learn more about Scots pine blister rust and other emerging threats including:

   - [Oak splendor beetle](#)
   - [Tremex wood wasp](#)
   - [Siberian silk moth](#)

2. **LEARN TO REPORT**

   You can easily and rapidly report the presence of Scots pine blister rust and other pests and pathogens online! Use the reporting link above to access our online report form.

   Learn more about identifying and reporting signs and symptoms of an invasive pest outbreak by taking free online First Detector courses at [www.firstdetector.org](http://www.firstdetector.org).

3. **PREVENT SPREAD**

   To avoid spreading harmful pests and diseases, don’t move plants or plant parts to new locations. When traveling, buy local fruit/vegetables and firewood, and always check your vehicle for stowaway pests!

---

If you think you’ve found this disease in your landscape, immediately follow instructions online to find out how to report its presence! Awareness, early detection, and rapid reporting are essential to prevent this exotic disease from establishing.

**Identification must be confirmed** by USDA National Identification Services (NIS). You can ensure they are informed by reporting at: [https://firstdetector.org/report-pest](https://firstdetector.org/report-pest)

Blister photos from top: Hansson, Swedish Univ. of Agricultural Sciences; Antti-Pouttu, Luke et.; Koller, the mushroom observer.

Canker photo: Hansson, Swedish University of Agricultural Sciences

---

You can protect our plant resources from introduced pests and diseases by becoming a First Detector.

Learn more and get involved! [www.firstdetector.org](http://www.firstdetector.org)

**reporting tools • pest profiles • e-learning courses**

**identification guides • educator resources**