

## Report of a Pest Risk Assessment

This summary presents the main features of a pest risk assessment which has been conducted on the pest, according to EPPO Standard PP 5/3(1) Pest Risk Assessment Scheme.

**Pest:** *Erannis jacobsoni* Diakonoff (Lepidoptera: Geometridae)  
**PRA area:** The European part of the EPPO region  
**Assessor:** EPPO Secretariat  
**Date:** June, 2000

### 1. INITIATION

**1.1 Reason for doing PRA:** Study of the risk of forest pests occurring on the territory of the former USSR for the western part of EPPO region  
**1.2. Taxonomic position of pest:** *Erannis jacobsoni* Diakonoff (Lepidoptera: Geometridae)

### 2. PROBABILITY OF INTRODUCTION

#### 2.1 Entry

**2.1.1 Geographical distribution:** Of limited distribution in EPPO region  
Originates in Russia (Transbaikalia and surrounding regions)  
**Europe:** Absent  
**Asia:** Russia (east of Southern Siberia, Transbaikalia, south of North – Eastern Siberia, Southern Far East), Mongolia  
**North America:** Absent  
**Central America & Caribbean:** Absent  
**South America:** Absent  
**Oceania:** Absent

**2.1.2 Major host plants:** Several species of *Larix*. Its preferred hosts are *Larix gmelinii* (= *L. dahurica*), *Larix sibirica*.

**2.1.3 Which pathway(s) is the pest likely to be introduced on:** The eggs of *E. jacobsoni* may be transported on wood containing bark because they are well placed and masked under scales and in cracks of bark and stay there for a long period of time (9 months since September to June). All stages of the life cycle can be transported on plants moving in trade particularly plants for planting and cut branches (including Christmas trees). Eggs, larvae and adults may be associated with wood containing bark and may be hitchhikers

on other products.

In decreasing order of risk, pathways for *E. jacobsoni* may be:

1. Untreated wood with bark
2. Host plants for planting and cut branches
3. Wood without bark, dunnage and packing material
4. Ships, planes, trains, road transports

## 2.2 Establishment

### 2.2.1 Crops at risk in the PRA area:

All species of *Larix*. The biggest risk exists for forests.

### 2.2.2 Climatic similarity of present distribution with PRA area (or parts thereof):

East, north and centre of the European part of the EPPO region has a similar climatic conditions with the area of origin and present distribution of the pest

### 2.2.3 Aspects of the pest's biology that would favour establishment:

The pest is genetically adaptable

### 2.2.4 Characteristics (other than climatic) of the PRA area that would favour establishment:

Host plants are widely distributed within the PRA area. Suitable ecological niches are available throughout the PRA area.

### 2.2.5 Which part of the PRA area is the endangered area:

The endangered part of the PRA area covers primarily eastern, northern and central parts of the European EPPO region (Austria, Belgium, Czech Republic, Estonia, Finland, France, Germany, Hungary, Latvia, Lithuania, Norway, Poland, Slovakia, Sweden, Switzerland) as well as mountain areas of some other countries.

## 3. ECONOMIC IMPACT ASSESSMENT

### 3.1 Describe damage to potential hosts in PRA area:

*E. jacobsoni* attacks both stressed and healthy larch trees of different ages leading to important decrease of wood and seed production and often their death and/or to outbreaks of bark beetles and other pests.

### 3.2 How much economic impact does the pest have in its present distribution:

*E. jacobsoni* is one of important defoliators of larch in Russia and Mongolia. At the reason of non-flying females, pest populations develop on the same trees during many consecutive years and may reach the population density till 6000 caterpillars per tree. All young trees are killed rather quickly. Its outbreaks occur throughout large areas (thousands of hectares), cause important decrease of wood and seed production. The outbreaks of *E. jacobsoni* are characterised by a very long eruption phase (3 – 4 years), which make the pest very dangerous for trees. The 100% defoliation of larch during such a long period often causes the death of forests. The reforestation of these areas is complicated and takes much time. This results in serious changes of environment over large areas. The death of forests has a social influence on the people living in damaged areas. Large scale pesticide treatments influence the social value of forest berries and mushrooms.

### 3.3 How much economic impact would the pest have in the PRA area:

Considering the similarity of ecological conditions, the damage in the PRA area should be not much less than in the present area of the pest.

#### 4. CONCLUSIONS OF PRA

##### 4.1 Summarize the major factors that influence the acceptability of the risk from this pest:

This pest

- comes from an area with similar climatic conditions to the PRA area and causes serious economic damage there;
- could easily establish throughout a part of PRA area;
- is the pest of larch trees which are important in the PRA area;
- can cause also environmental and social damage.

##### 4.2 Estimate the probability of entry:

high (from 3.91 to 6.00 for different pathways)

##### 4.3 Estimate the probability of establishment:

high (6.21)

##### 4.4 Estimate the potential economic impact:

high (5.21)

##### 4.5 Degree of uncertainty

There is little uncertainty in this assessment

#### 5. OVERALL CONCLUSIONS OF THE ASSESSOR

The endangered area is primarily eastern, northern and central parts of the European EPPO region (Austria, Belgium, Czech Republic, Estonia, Finland, France, Germany, Hungary, Latvia, Lithuania, Norway, Poland, Slovakia, Sweden, Switzerland) as well as mountain areas of some other countries. The potential impact within the endangered area is rather high including both the direct damage to larch plantations and forests resulting in wood and seed losses, environmental damage to natural forests resulting in their death on large areas, and social damage to people living in damaged areas.

*E. jacobsoni* should be included into the A2 EPPO list.