

Forstschutz Aktuell Nr. 50 - Abstracts

Crown Damage of Larch widespread in Austria

Thomas L. Cech, Hannes Krehan, Bernhard Perny and Gottfried Steyrer

Needle discoloration, crown thinning and twig- and branch dieback of European Larch was reported from Styria, Salzburg, Carinthia, Upper and Lower Austria from June 2010 on. For the damage in lowlands, the primary cause is regarded as early winter frost following rainy and warm weather in autumn of 2009. In altitudes above 1000 m, larches commonly show the characteristic symptoms of spring frost during budburst in May 2010. Among the biotic agents contributing to the crown thinning, aphids are most common. In some regions, the Western Larch Case-Bearer (*Coleophora laricella*) is the dominant species responsible for needle yellowing. Larch Bud Midge (*Dasyneura laricis*) and Larch bark moth (*Cydia zebeana*) are of importance, at least locally. From the fungal diseases it is only *Mycosphaerella laricina*, which commonly colonises needles damaged by aphids. A relation between frost damage and repeated epidemic occurrence of needle sucking insects is discussed.

Fungal Diseases in Austrian Trees 2010

Thomas L. Cech

Beech canker (*Neonectria ditissima*) is reported from lowland stands of *Fagus sylvatica* in Lower Austria. The epidemic outbreak is regarded as a consequence of water deficiency stress in combination with hail and storm damage. Browning of leaves was a common phenomenon during the humid and cool spring of 2010. Outbreaks of *Apiognomonina errabunda* on European beech, *Monostichella robergei* on hornbeam, *Apiognomonina tiliae* and *Cercospora microsora* on lindens are reported from several regions of Austria. Firs (*Abies alba*) infected by the needle disease *Herpotrichia parasitica* were observed in parts of Upper Austria. On Norway spruce trees, *Lirula macrospora* caused local loss of needles. Alpine spruce rust *Chrysomyxa rhododendri* showed intense outbreaks at the timber line. In urban areas, crown thinning associated with the fungus *Stigmina pulvinata* was commonly observed in linden trees. Spruce cone rust (*Thekopsora areolata*) caused local shoot dieback of young Norway spruce trees in the northern part of Lower Austria. Infection of plant stock of Common Alder with *Phytophthora alni* several years after planting was identified as a cause of decline several times.

Frost Resistance and Overwintering of *Ips typographus*

Axel Schopf and Peter Kritsch

In field and laboratory experiments we investigated the winter mortality of larvae, pupae, and adults of the European Spruce bark beetle, *Ips typographus*. Overwintering of adult beetles is ensured by an increase in frost resistance, which was indicated by their individual supercooling point (SCP). On the contrary, temperatures above the SCP caused chilling injuries and inoculative freezing in larval and pupal stages. As a consequence, total mortality in these preimaginal stages already occurred at minor frost conditions, while the loss due to winter mortality in hibernating beetles was 50 % on average. Possible causes for the incidence of winter mortality in the various stages of *Ips typographus* are discussed.

Mass outbreak of box tree pyralid *Diaphania perspectabilis* in the East of Austria

Bernhard Perny

Further studies revealed the presence of more infested trees. Neem oil products are used to control this insect pest, in addition to less environmental-friendly insecticides specifically authorized for free-feeding caterpillar control. Infested plants shall be disposed of with normal household garbage.

New Monitoring of Spruce webworm in Bavaria

Hannes Lemme and Ralf Petercord

The new monitoring for spruce sawfly in Bavaria is divided in two different approaches. The local agency for food, agriculture and forestry (Germ. abbr. AELF) as well as Foresters of the Bavarian State Forestry initiate a winter census count for larvae in spruce stands after visible defoliation. The second part of the monitoring is performed by Bavarian State Institute of Forestry. In few fixed spruce stands the webworm is monitored every year. For a forecast both information are merged. The census method is also changed. The number of trees with a census count is increased from three to four and six respectively. The digging area per trees is reduced from 0.25 to 0.1 square meters. With these two different approaches as well as the change in the procedure per stand the effort is minimized with a consistent forecast quality.

Diflubenzuron: A Necessary Agent of Integrated Plant Protection

Ralf Petercord and Gabriela Lobinger

The pesticide Dimilin® 80 WG with the active agent Diflubenzuron is applied for controlling outbreaks of forest insects. The

ecosystemal effects of the compound and its application in integrated plant protection are discussed.

Are "Non Phytotoxic" Trace Gases More Relevant for Forest Ecosystems Than Aggressive Air Pollutants?

Stefan Smidt

Following profound air pollution control measures in Europe, the less reactive greenhouse gases (carbon dioxide, methane, fluorochlorocarbons, nitrous oxide) have gained in importance. Whereas direct negative effects on plants are ζ with the exception of ozone - negligible, indirect effects - increasing temperature, but also degradation of the stratospheric ozone - are of utmost interest due to the remarkable increase in concentration of these micro-pollutants.



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