

Forest seedling planting

with seedlings treated with

Cyper Plus or Merit Forest WG

as protection against pine weevil (*Hylobius abietis*).

Guidelines for practical actions to be taken to prevent damage to fishes and other aquatic biota.

Insecticide use guidelines

Spraying before planting

Seedlings shall be sprayed before planting only in forest nurseries or other central site fitted with established spraying equipment. Spraying in another place or sinking in insecticides is absolutely forbidden. Spraying shall be carried out by personnel authorised to handle insecticides Class 2L.

Spraying after planting

It is allowed to spray planted seedlings. To do it one should be authorised to handle preparations Class 2L or held special authorisation for insecticide field spraying granted after completing training organised by forest administration.

Training for juvenile labourers

Juvenile labourers should not plant seedling sprayed with insecticides with exception of juveniles who reached or will reach the age of 16 in the calendar year and who were trained in accordance with *the training schedule accepted by the parties* at the Forestry Occupational Commission on 12/2 1993.

The training materials are available from the Seedling Protection Committee internet sites.

www.skogforsk.se. Klick on: Samverkan → Plantskyddskommittén → Utbildningsmaterial.

Insecticides may be harmful to other organisms

Cypermethrin (Cyper Plus) is poorly soluble in water but strongly bonds with particles of soil and humus. When water containing humus flows through a water system, cypermethrin bonded with humus particles can travel over a good distance. Fishes may suffer when humus accumulates in gills and bonded cypermethrin releases and penetrates into fish tissues. Cypermethrin is highly hazardous to fishes.

Imidakloprid (Merit Forest WG) is of lesser toxicity to fishes but is more hazardous to birds. Extreme care should be taken to avoid insecticide penetration into waters or plants on which birds feed.

Insecticides may penetrate into waters and be lethal to fishes

- *If plants are placed in a water course*
- *If packaging or peat from bags or cartons penetrate into water.*
- *If water from the site where roots are temporarily ridged with soil or from planted seedlings may flow off into water courses*
- *If excess water used for plant washing may flow off into water courses.*
- *If planting equipment is washed in water courses.*

Water course protection and avoidance of fish killing

- Do not store seedlings or temporarily ridge its roots with soil in the vicinity of lake or water course.
- Do not temporarily ridge roots in a ditch, even if no water is present. When raining, water can flow off into lakes or water courses.
- Never place seedlings in marshy ground or similar places. During heavy rain the water level may rise and water from the marsh can be discharged into water courses.
- Do not water seedlings that are temporarily covered with soil or seedlings placed in another way as this can lead to discharge of excess water into water courses.
- Do not place sprayed seedlings within the distance of 6 m from lakes or water courses.
- Packaging shall be kept safely as the insecticide may remain in peat or cartons, or in the form of moisture inside the packaging.
- Packaging and other materials contaminated with plant protection chemicals shall be collected and moved to the local utilisation station as flammable wastes or onto a plant landfill.
- Do not wash planting tools in lakes or water courses.

Personal protective measures

Wear appropriate clothing as a protection from direct contact, long trousers, shirt with sleeves, arm protection and gloves.

Observe hygiene. Wash hands before eating, smoking, snuff sucking and going to the toilet.

Do not wear working clothing outside working hours.

Do not keep food and beverages and clothes together with packaging where sprayed seedlings were placed.

If seedlings are delivered in tightly sealed containers, the packaging shall be opened and vented before seedlings are handled.

If you find symptoms that could be caused by plant protection chemicals you should immediately notify your manager. Then contact local outpatient clinic or nurse.

This booklet is available from :
Skogforsk
Uppsala Science Park Telephone:
751 83 Uppsala

018 –18 85 00
fax: 018-18 86 00

Download PDF files from the internet site of the Committee for Seedling Protection in Forestry (Plantskyddskommittén) www.skogforsk.se.
Please click; Samverkan → Plantskyddskommittén → Utbildningsmaterial.

Treating

of Forest seedlings with Cyper Plus or Merit Forest WG

Guidelines for practical actions to be taken to prevent damage to fishes and other aquatic biota.

How is treating to be done?

Spraying before planting

Seedlings shall be sprayed before planting only in forest nurseries or other central site fitted with established spraying equipment. Spraying in another place or sinking in insecticides is absolutely forbidden. Spraying shall be carried out by personnel authorised to handle *insecticides Class 2L*.

Spraying after planting

It is allowed to spray planted seedlings. To do it one should be authorised to handle preparations Class 2L or held special authorisation for insecticide field spraying granted after completing training organised by forest administration.

An exception from requirements related to do qualifications /authorisation, covering previously the owners who sprayed seedlings on their own land was invalidated. The qualification requirements related to spraying with all insecticides are still valid.

Insecticides may be harmful to other organisms

Cypermethrin (Cyper Plus) is poorly soluble in water but strongly bonds with particles of soil and humus. When water containing humus flows through a water system, cypermethrin bonded with humus particles can travel over a good distance. Fishes may suffer when humus accumulates in gills and bonded cypermethrin releases and penetrates into fish tissues. Cypermethrin is highly hazardous to fishes.

Imidaklopid (Merit Forest WG) is of lesser toxicity to fishes but is more hazardous to birds. Extreme care should be taken to avoid insecticide penetration into waters or plants on which birds feed.

Insecticides may penetrate into waters and be lethal to fishes

- *If spraying equipment is washed in water course or water reservoir from which water may escape into water course after raining.*
- *If preparation packaging is placed or washed in water courses.*
- *If seedlings are sprayed near lakes or water courses.*

Water course protection and avoidance of fish killing

- *Do not empty the spraying equipment in the vicinity of water courses. After raining the water reservoir may discharge water into water courses.*
- *Please keep the preparation packaging away of lakes or water courses and do not wash it in lakes or water courses.*
- *Do not spray seedlings within the distance of 6 m from lakes.*
- *Do not spray seedlings when raining or when raining is expected in the same day. The sprayed fluid shall dry and penetrate into plants to avoid washing it by rain.*
- *Do not mix the spray preparation within 30 m from lakes or water courses.*

Some advise

Spraying shall be planned so that no excess spray fluid is left inside the spraying equipment. Should you are unsure of the proper amount, it is better to prepare a smaller amount of fluid.

If despite of it, an excess fluid is left in the spraying equipment, some seedlings can be sprayed twice to use all fluid.

After emptying the preparation packaging you should:

Fill the packaging with water up to half of its volume, replace the cap and shake the bottle. Then pour the liquid into the spraying equipment tank and repeat rinsing at least once again.

After such treatment the packaging can be treated as housekeeping wastes.

Keep ground water protection in mind. Never empty the spraying equipment near lakes or water courses. There is always a risk that permethrin may penetrate into ground waters.

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