



Pollinator Protection and Responsible Use of Treated Seed

April 8, 2013

Best Management Practices

Wild and managed pollinators are vital to agricultural production and the environment. Many farmers, including those who grow corn, use seed treated with insecticides to protect their crop from insect pests. Some insecticides, such as nitro-guanidine neonicotinoids, may be toxic to pollinators. Depending on a number of factors, planting of treated seed can emit dust containing pesticide into the air, placing pollinators at potential risk if they are exposed to the dust.

The following best management practices (BMPs) are provided to reduce the risk to pollinators, particularly honey bees, from exposure to dust from treated seed.

These BMPs provide a toolbox of options to help reduce risks to pollinators, recognizing that not all practices may be possible under all circumstances.

Know where beehives are located

Communication and cooperation among growers, seeders and beekeepers on the timing of seeding and the location of hives can help reduce the risk of bee incidents. Such communication can enable beekeepers to confirm that hives are located upwind of the planting field or in shelter belts, and have access to clean water sources. It can also permit beekeepers to temporarily protect or relocate hives where this is feasible.

Did you know?

Honey bees can forage 5 km or more from the hive.

Honey bees forage actively during the daytime at temperatures above 13°C. Other pollinators, such as bumble bees may forage at temperatures below 13°C.

Weather conditions can influence pollinator exposure

Pollinators can be exposed to treated seed dust when it is carried in the air or is deposited onto flowering crops, weeds, soil, or water sources. Since very dry and/or windy conditions may favour dust transport and exposure, it is important to monitor environmental conditions and avoid planting treated seed in such conditions.

Where possible:

- Avoid planting treated seed in windy and/or very dry conditions.
- Consider wind direction and avoid planting treated seed if bees are foraging downwind or nearby.
- Control flowering weeds in the field before planting so that foraging bees are not attracted to the planting site.

Avoid generating dust when handling treated seed

Follow best practices when handling and loading treated seed:

- Check that treated seed and coating are of high quality: seeds should be clean and the coating should be well-adhered to the seeds.
- Handle bags with care during transport, loading and unloading in order to reduce abrasion, dust generation and spillage.
- Do not load or clean planting equipment near bee colonies, flowering crops or weeds, or hedges.
- Pour seeds carefully into the planter in such a way as to avoid the transfer of dust from the seed bag.
- Do not shake any loose material or dust from the seed bag into the planting equipment.

Maintain planting equipment

It is important to use planting equipment that minimizes spillage and dust emission from the planter, and to follow planting equipment manufacturer directions.

- Follow the directions provided from planting equipment manufacturers and keep up-to-date on new use practices.
- Clean and maintain planting equipment regularly.
- Consider using deflector equipment, where appropriate, to reduce emission of dust into the air and off-field deposit of dust.
- Seed flow lubricants may affect the generation of dust during planting; carefully follow use directions.

Ensure proper clean-up and disposal

Take care when cleaning up after planting seed and follow provincial / municipal disposal requirements:

- Spilled or exposed seeds and dust must be incorporated into the soil or cleaned-up from the soil surface.
- Keep treated seed and dust away from surface water.
- Properly dispose of any dust or treated seed remaining in planting equipment (for example, empty into a container and vacuum any dust remaining in the hopper).
- Do not leave empty bags or left-over treated seed in fields or the environment.
- Participate in collection programs for seed bags where available.

Exercise pollinator-friendly practices throughout the growing season

Bees collect pollen, nectar and water from different sources that could become contaminated with pesticide residue. For example, bees collect pollen and nectar from flowering crops and weeds, as well as water from puddles and moist soil in or beside fields.

- Avoid contamination of plants, soil and water sources that may be used by bees.
- Bees should always be provided with a source of clean drinking water.
- Provide pollinator-friendly habitat (for example, alfalfa, clover, wildflowers) away from active fields.

Report suspected pollinator pesticide poisonings

For poisonings related to treated seed in 2013:

- in Nova Scotia, contact Joanne Moran, NS Bee Health Advisor, at 902-679-8998
- in Prince Edward Island, contact Chris Jordan, Provincial Apiarist, at 902-314-0816
- in New Brunswick, contact Chris Maund, Provincial Apiarist, at 506-453-2108
- in Newfoundland and Labrador, contact Krista Head, Natural Resources Development Officer, at 709-637-2079

You can also contact Health Canada's Pest Management Regulatory Agency at 1-800-267-6315.

Don't forget to wear personal protective equipment when handling treated seed

Wear appropriate personal protective equipment (PPE) and avoid exposure to dust.

- Wear PPE for handling treated seed as specified on the seed tag and the product label. PPE may include long pants, a long-sleeved shirt, coveralls, shoes and socks, chemical resistant gloves or a respirator.
- Avoid exposure to dust when handling treated seed when opening and emptying treated seed packaging, loading and planting, and during clean-up and disposal activities.

Related Information

For information on best practices that reduce the potential of adverse effects to pollinators during pesticide spray applications, consult the fact sheet "*Pollinator Protection and Responsible Pesticide Spraying*".