

## Chapter 7 Forest Management Chemicals

### For Forest Owners:

Chemicals used in forestry generally fall into two categories: Fertilizers and Pesticides.  
Pesticides include:  
- Herbicides (plants)  
- Insecticides (insects)  
- Rodenticides (rodents)  
- Fungicides (fungus, mold)

The careful prescription and application of select chemicals can enhance forest growth in a number of ways. These chemicals, which include fertilizer and pesticide, are useful for:

- Controlling undesirable or invasive/exotic vegetation.
- Reducing wildfire risks.
- Improving soil nutrition.

In most cases, there are federal and/or state rules that describe what actions must be done to use the chemical properly. This information should be available on the product's label and/or Safety Data Sheets (SDS).

### Helpful Hints:

Valuable information is provided on the product container labels, including recommended drift control additives, surfactants and other enhancing adjuvant.

Labels also alert you to protective equipment needs, mixing instructions, wind speed, temperature limitations, and first aid procedures.

### Water Quality Link

When applying these chemicals it is necessary to take precautions so water quality is protected. For many chemicals used in forestry, it is illegal to apply them to water, or allow them to be washed into waterbodies. Only those chemicals labeled for aquatic use may be applied over or into waterbodies.

### Rules Related to Using Forestry Chemicals in North Carolina

#### Forest Practices Guidelines Related to Water Quality (FPGs)

#### **FPG**

**FPG .0206 and FPG .0207 explain what standards must met when using pesticides and fertilizers.**

#### **DWR riverbasin and watershed 'Riparian Buffer Rules'**

Restricts the use of pesticides and fertilizers within the buffer. Consult each rule for your specific riverbasin or watershed.

#### **Pesticide Applicator Licensing Requirement**

02 NCAC 09L .0503 through .0519 defines who is allowed to apply pesticides and what procedures they must follow to be licensed.

#### **Aerial Application of Pesticides**

02 NCAC 09L .1001 through .1005 defines rules related to aerial application of pesticides, including restricted areas.

#### **N.C. Pesticide General Permit #NCG560000 under the NPDES**

This permit may be required when aerially applying pesticides.

### Also Refer To...

Part 5 of Chapter 1 to learn about soil factors.

### Site and Chemical Factors to Consider

Protecting water quality must be considered when using forestry chemicals. When planning their use, it is important to learn the characteristics of the chemicals to be used. It is necessary to take into account site factors such as topography, soil conditions, drainage and other factors to adequately protect water quality. Two important chemical characteristics are explained below.

**1. Mobility:** The ability of the chemical to move through the soil and environment. A chemical that has high mobility may easily move off-site.

**2. Persistence:** The length of time a chemical remains active after application. A chemical with long duration persistence may have long-lasting effects once it is applied.

**Caption:**

*Herbicides, other pesticides, and fertilizer may be applied with ground-based equipment or helicopters.*

*The weather conditions during and immediately following application can determine how water quality may be affected by the chemical's usage.*

**Figure 7A: Applying herbicides with tractor-mounted equipment in eastern North Carolina**



**BMPs for Handling, Mixing and Storing Forestry Chemicals**

- Refer to the product's label(s) and/or SDS for specific recommendations.
- Properly store, mix, and load chemicals away from SMZs or in a location where spills or leaks will not enter the water.
- Properly dispose of chemical containers according to product label recommendations and applicable laws.
- Park equipment used for application equipment outside of the SMZ or away from water.
- Plan for the containment and cleanup of spills or leaks by having suitable tools or materials available.

**BMPs for Applying Forestry Chemicals**

- Refer to the product's label(s) and/or SDS for specific requirements.
- Maintain accurate and calibrated application equipment so the correct amount of chemical is applied.

**Also Refer To...**

*Chapter 8 to review the BMPs for Fluid Management for their potential application as it relates to equipment and fluids.*

**Helpful Hints:**

*Consider getting a soil or foliage analysis to determine the amount of fertilizer needed.*

**Did You Know?**

*For many forestry-labeled pesticides, helicopters are required that have specific nozzle pressures and configurations.*

*Refer to the label for specific requirements.*

*Most herbicide labels require aerial spraying to cease when:*

- *Wind speed exceeds 6 MPH, or*
- *Air temperatures reach 90°(F), or*
- *In advance of unstable weather.*

**For Forest Owners:**

*When contracting for chemical application:*

*-- Obtain and talk with references of other customers.*

*-- Be certain the applicator is licensed (if applying pesticide).*

*-- Ask for proof of liability insurance and Worker's Compensation insurance.*

*-- Require a written contract that specifies the details of BMPs, the chemical treatment, and a clause that the applicator is responsible for adherence to all state and federal laws.*

- Use the minimal amount of suitable chemical(s) needed to accomplish the desired result(s).
- Avoid broadcast-style of application within or over SMZs and water, unless the chemical to be applied is labeled for aquatic use.

- Apply at least 50 feet away from an intermittent or perennial stream or perennial waterbody, unless the targeted area falls within this distance range. Take precautions to protect water quality if applied closer than this.

- Apply in a controlled manner and only to those areas that need it:

**Pesticide :**

- Refer to the rules that apply regarding FPGs, buffers and restricted areas.
- Use aerial and ground application methods designed to assure optimum control of the spray path that produces minimal drift.
- Low-pressure and large droplet nozzle equipment should be used.

**Fertilizer :**

- Refer to the rules that apply regarding FPGs and buffers.
- Apply sparingly within ephemeral areas. Avoid applying if forecast precipitation could wash the fertilizer into an intermittent or perennial stream or waterbody.

**Emergency, Toxic Exposure and Spill Contacts****Personal Health & Safety - - Call 911 for immediate life-saving help**

Carolinaz Poison Center

1-800-222-1222 ( [www.ncpoisoncenter.org](http://www.ncpoisoncenter.org) )

**Spill Control and Notification NCDENR Regional Offices**

Asheville	(828) 296-4500	Washington	(252) 946-6481
Fayetteville	(910) 433-3300	Wilmington	(910) 796-7215
Mooresville	(704) 663-1699	Winston-Salem	(336) 771-5000
Raleigh	(919) 791-4200		

**N.C. Division of Emergency Management 24-hour HotLine**

1-800-858-0368

**National Response Center**

1-800-424-8802 ( [www.nrc.uscg.mil/nrchp.html](http://www.nrc.uscg.mil/nrchp.html) )

**Pesticide Rules -- N.C. Department of Agriculture and Consumer Services (NCDACS) Pesticide Section:**

(919) 733-3556 ( [www.ncagr.gov/SPCAP/pesticides/Authorit.htm](http://www.ncagr.gov/SPCAP/pesticides/Authorit.htm) )

**Pesticide Information, National Pesticides Information Center**

1-800-858-7378 ( <http://npic.orst.edu/> )