

Chapter XX Weather-Wise Application

2005 Pesticide Certification Workshop



UNIVERSITY of NEW HAMPSHIRE
Cooperative Extension

Chapter XX Weather-Wise Application

Weather-Wise application can reduce pesticide hazard to the environment.

- A good applicator carefully checks the weather conditions before beginning spray procedures.
- Simple precautions protect the environment, but in terms of dollars and cents they aid the applicator.
- Pesticides which do not reach or remain on the target areas are wasted.
- More pesticide, time, and money must be used to control the pests in the target area.

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Avoid High Temperature and Low Humidity Conditions

- Temperature and humidity affect pesticide drift.
- High temperature and low humidity increase the rate of evaporation of the pesticide.
- Small droplets that completely evaporate leave pesticide particles in the air that may be carried several miles away from the treatment area (vapor drift).

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Avoid Windy Days

- High winds increase drift and result in the loss of pesticide from treated areas.
- Drifting pesticides increase the possibility of injury to wildlife, pollinators, and domestic animals.
- They may settle on forage, pasture or wildlife areas or contaminate water.
- Pesticide application on quiet days reduces the inhalation and contact hazard to the applicator and the bystander.

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Avoid Windy Days

- Drift onto sensitive crop areas can also be avoided in this way.
- The applicator is legally responsible for any injury or money loss due to pesticide drift onto non-target areas.
- Don't take a chance by spraying in the wind.

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- The runoff can carry the pesticide into sensitive areas where crops or wildlife could be injured.
- Runoff can also reach surface waters such as farm ponds, streams and waterways.
- This can cause contamination, fish kills, and injury to domestic animals.

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Other Wind & Temperature Considerations

- The drift of pesticides is also affected by the air turbulence.
- The air turbulence is determined by the difference between the temperature at ground level and the temperature of the air above it.
- Normal weather conditions cause heating of the soil. If the air just above the soil is warmer than the air aloft, upward air currents begin.

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- The larger the temperature difference between air above the soil surface and the air aloft, the stronger the air currents.
- These air currents could carry spray droplets and pesticide particles a considerable distance away from the treatment area.
- Do not apply pesticides when such turbulent conditions exist.

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Other Wind & Temperature Considerations

- An inversion occurs when the air near the soil surface is cooler than the air above it.
- The warm air forms a cap that blocks upward air movement that would otherwise help disperse the chemicals.
- Wind can aid in air mixing and reduce inversion conditions.

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- However, low wind conditions during inversion conditions may cause small spray drops to remain suspended in the air.
- The droplets will eventually move out of the treatment area as a concentrated cloud.
- Smoke can be used as a good indicator of an inversion condition.
- Do not apply pesticides when inversion conditions exist.

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Avoid Application Just Before Rains

- Spray applications should not be made just before a rain, because the pesticide washes off and the pests are not controlled.
- Rains cause runoff and tend to wash the pesticide away from the target areas.

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Consider Early Morning or Evening Application

- Wind speed is usually lowest and humidity higher at these times of the day, thus drift hazard is greatly reduced.
- Children and domestic animals are less likely to be in sprayed areas during these hours.
- Avoiding full daylight hours lowers the contact danger to wildlife such as birds, mammals, and pollinators, who often visit crop lands during the day.