

Temperature Inversion

Overview

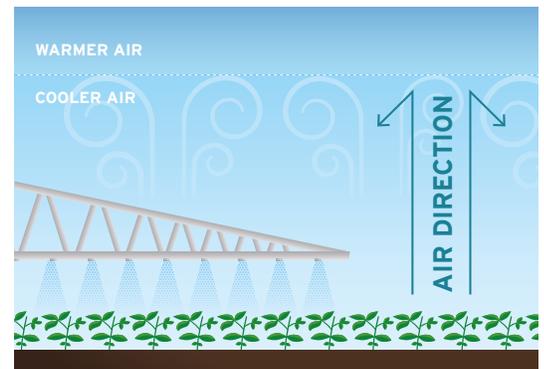
Temperature inversion can be particularly troublesome during weed treatment, causing particles of herbicide to become trapped in the air, causing off-target movement. Understanding the features of a temperature inversion can help you avoid potential crop damage.

What you should know

- A temperature inversion occurs when a layer of warm air covers a layer of cooler air and acts like a lid, preventing the cooler air from rising and dissipating into the upper atmosphere.
- During a temperature inversion, spray particles can become trapped in the warmer layer of air and stay suspended until wind movement increases, resulting in off-target movement.
- Never spray herbicides during a temperature inversion. You risk damaging susceptible plants in nearby fields, lawns and gardens.

Action steps

1. **Monitor temperatures:** If the temperature is within 5 degrees of the overnight low, closely check wind speed and particle movement in the field.
2. **Measure wind speed:** If wind is less than 3 mph, do not spray.
3. **Use smoke or powder to indicate particle movement:** The smoke or powder should drift gently with the wind. If it gathers in a stationary, suspended cloud, that indicates a temperature inversion—do not spray.
4. **Measure temperature at ground level (~3 feet) and at 7 feet above ground:** If the difference is more than a few degrees, it is considered an inversion.
5. **Wait it out:** If you suspect a temperature inversion, don't spray. Wait until later in the day and check again for a more favorable application environment.



In a temperature inversion, a layer of warm air acts as a lid and prevents cooler air underneath from rising.



30-Second Summary

- Temperature inversions can lead to off-target herbicide movement.
- In a temperature inversion, a “lid” of warm air keeps cooler air underneath from rising and dissipating.
- Carefully monitor temperatures and wind speed to watch for a temperature inversion.
- Do not spray if you suspect a temperature inversion.

NOTES:

For more information, contact:



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