

# How to Use Agweather's Drift Risk Advisor



article revised November 2009

## Introduction:

Spray applicators are faced with the challenge of avoiding spray drift. Spray drift is defined as "the output from an agricultural crop sprayer that is deflected out of the target area," typically caused by wind. Spray drift can be hazardous to sensitive plants and animals.

To aid applicators in identifying times of higher drift risk due to weather variables, the Oklahoma Mesonet has created a Drift Risk Advisor. This planning tool compares weather variable parameters with an 84-hour forecast matched to each Mesonet site. The Drift Risk Advisor uses the National Weather Service 84-hour North American Model forecast. In addition to weather variables the Drift Risk Advisor has forecasted dispersion conditions.

The Drift Risk Advisor is a weather-based planning tool that provides drift risk guidance, it does not supersede conditions at the field at the time of application that may be different from the forecast. The final judgement of whether conditions are appropriate for a spray application are the responsibility of the applicator.

## Drift Risk Advisor Weather Variables:

Select "Upper" and "Lower Limits" that are appropriate for the application material. Upper and/or Lower Limits can be entered for one, all or any combination of the Drift Risk weather variables.

- Air temperature (Fahrenheit)
- Relative humidity (percent)
- Average wind speed (miles per hour)
- One hour rainfall (inches per hour)
- Wind direction
- Dispersion conditions

Dispersion conditions are based on the Oklahoma Mesonet Dispersion Advisor. Dispersion conditions are reported as one of six levels of vapor dispersion. These six categories are given text and number designations: Very Poor (1), Poor (2), Moderately Poor (3), Moderately Good (4), Good (5) and Excellent (6).

## Finding the Drift Risk Advisor:

The Oklahoma Mesonet Drift Risk Advisor is located on the Agweather Web site (<http://agweather.mesonet.org>).

- From the main Agweather page, select "Forecast"
  - Choose "Drift Risk Advisor"
- or
- From the main Agweather page, select "Crop"
  - Choose any crop
  - Under Pest Control, select "Drift Risk Advisor"
- or
- From the main Agweather page, select "Horticulture"
  - Choose any horticulture crop
  - Under Pest Control, select "Drift Risk Advisor"

## Drift Risk Advisor

### Pesticide Application Planner

Weather Variable	Lower Limit	Upper Limit
Air Temperature (F)	<input type="text"/>	<input type="text"/>
Relative Humidity (%)	<input type="text"/>	<input type="text"/>
Wind Speed (mph)	<input type="text"/>	<input type="text"/>
1-hour Rainfall (inches)	<input type="text"/>	<input type="text"/>
Dispersion Conditions	<input type="text"/>	

  

Select wind directions to be avoided.

Reset Next



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**Drift Risk Advisor**

Pesticide Application Planner

Date and Time	Criteria Met?	Wind Direction	Wind Direction in degrees	Wind Speed	Air Temperature	Rainfall per Hour	Dispersion Conditions	Relative Humidity
Nov 13, 2009 3:00 pm CST	Yes	SSW	194.7	4 mph	77°F	0.00 in.	5 (G)	36%
Nov 13, 2009 4:00 pm CST	Yes	S	176.7	3 mph	74°F	0.00 in.	4 (MG)	46%
Nov 13, 2009 5:00 pm CST	Yes	SE	143.5	2 mph	70°F	0.00 in.	3 (MP)	56%
Nov 13, 2009 6:00 pm CST	No	ESE	107.2	2 mph	66°F	0.00 in.	1 (VP)	65%
Nov 13, 2009 7:00 pm CST	No	SE	125.3	2 mph	65°F	0.00 in.	1 (VP)	68%
Nov 13, 2009 8:00 pm CST	No	SE	141.4	3 mph	64°F	0.00 in.	2 (P)	71%
Nov 13, 2009 9:00 pm CST	No	SSE	153.7	3 mph	63°F	0.00 in.	2 (P)	74%
Nov 13, 2009 10:00 pm CST	No	SSE	160.6	2 mph	61°F	0.00 in.	1 (VP)	78%
Nov 13, 2009 11:00 pm CST	No	SSW	194.5	1 mph	59°F	0.00 in.	1 (VP)	82%

**Drift Risk Advisor Output Table:**

The times when Weather Variables are within the user entered "Upper and Lower Limits" will appear as green colored boxes in the output table. When the Weather Variable is outside the Upper and Lower Limits, the box will have a red color. Weather Variables not compared will be shown in the table as column(s) of alternating gray and white boxes.

When all selected "Weather Variables" for a single hour fall within the entered Upper and Lower Limits, the "Criteria Met?" box will be colored green and have "Yes" text. When any one Weather Variable for a single hour falls outside the entered Upper and Lower Limits, the box in the "Criteria Met?" column will have a red color and "No" text.

**Examples of Drift Caution Statements on Pesticide Labels**

Trade name	Common name	Pesticide group	Drift caution statements
Banvel + 2,4-D	Banvel and 2,4-D	Hormone herbicide	Do not spray near sensitive plants if wind is gusty or in excess of 5 mph and moving in the direction of adjacent sensitive crops
Command 3ME	Clomazone	Preemergency herbicide	Do not apply in winds about 10 mph. Avoid gusty or windless conditions
Dimethoate 4E	Dimethoate	Organophosphate insecticide	Apply only when the wind is less than or equal to 10 mph
Tordon 22K	Picloram	Hormone herbicide	Drift potential is lowest between wind speeds of 2-10 mph. Application should not occur during an inversion because drift potential is high.
Trigard	Cyromazine	Insect growth regulator	To avoid spray drift, do not apply under windy conditions
Warrior	Lambda-cyhalothrin	Synthetic pyrethroid insecticide	Do not apply when wind velocity exceeds 15 mph.

Your feedback is important to us. Call us at 405-325-3126.



**Our story**

In 1982, Oklahoma scientists recognized the need for a statewide weather network.

At OSU, agricultural scientists wanted to upgrade weather instruments at their research sites. Their goal was to expand the use of weather data in agricultural applications.

Meanwhile, scientists from OU and the Oklahoma Climatological Survey were helping to plan and implement a flood-warning system for Tulsa.

OSU and OU joined forces in 1987 when they

realized that one statewide weather network would help both universities achieve their missions.

No other state or nation is known to have a network that boasts the capabilities of the Oklahoma Mesonet.

Agweather is one Web site that features data from the Oklahoma Mesonet. Agweather provides weather-related products for agriculture and natural resources.

Agweather can be found at <http://agweather.mesonet.org/>.

