



# SOUTH DAKOTA STATE UNIVERSITY

Department of Agricultural and Biosystems Engineering

To: South Dakota Chemical Applicators  
From: Nathan Edwards, Director of SD Mesonet  
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Subject: Weather for Recordkeeping

Accurate weather reports are key to successful and responsible pesticide application. Recent chemistries with particular sensitivity to weather conditions and labels with new types of weather requirements have led to questions among applicators. In an effort to address these, here are some answers to frequently asked questions.

### **What weather reports are acceptable?**

The South Dakota Department of Agriculture considers weather reports from nearby federal airport stations (National Weather Service ASOS/AWOS) or South Dakota Mesonet stations to be acceptable for recordkeeping. These stations, their maintenance and their locations meet established standards that make them suitable for monitoring spray conditions over an area equal to a typical size county. Handheld measurements may substitute for wind speed, wind direction and temperature but not inversion.

### **Are third party weather reports acceptable for recordkeeping?**

Frequently, websites or apps use computer models or personally owned weather stations in their reports. These reports can be used to aid spray decisions but should never replace measurements made by federal airport stations, by SD Mesonet stations or by an in-field handheld meter for recordkeeping purposes. Federal airport weather reports are widely available through third-party sources and may be used for recordkeeping as long as they are unaltered.

### **Should wind speed or wind gust be used?**

Current SDDA policy is to use wind speed averaged over at least 2 minutes when determining label compliance and for recordkeeping. Wind gust is no longer used.

### **How should wind speed (height unspecified) be obtained?**

The labels of most products do not specify a height for wind speed. SDDA considers unadjusted wind reports from a nearby federal airport station or South Dakota Mesonet station to be suitable for recordkeeping. A handheld wind meter at a height of 80 inches may be substituted. Boom height wind speed should not be used for these labels.

### **How should boom height wind speed be obtained?**

XtendiMax, FeXapan and Engenia require boom height wind speeds of 3-10 mph. Wind reports from an appropriate station (federal airport or SD Mesonet) adjusted to boom height using Environmental Protection Agency methods are approved by SDDA for recordkeeping including the SD Mesonet Spray Tool's boom height wind speed. Boom height wind speed is not currently available at federal airport stations, but during label hours (one hour after sunrise to two hours before sunset), their wind speeds of 4-12 mph at 33 feet will fall within boom height winds speeds of 3-10 mph at boom height using EPA methods.

### **How is inversion determined?**

The SD Mesonet currently is the only adequate means available in the state for inversion monitoring. If a SD Mesonet station is not nearby, caution should be exercised and spraying should not be done from one hour before sunset to one hour after sunrise (some labels are stricter).

[www.weather.gov](http://www.weather.gov)

[mesonet.sdstate.edu/spray](http://mesonet.sdstate.edu/spray)