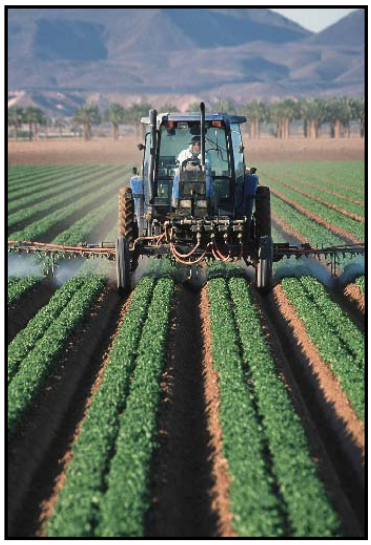
United States Department of Agriculture
Natural Resources Conservation Service

2011 Ranking Period 1

Air Quality Enhancement Activity – AIR04 – Use drift reducing nozzles, low pressures, lower boom height, and adjuvants to reduce pesticide drift



Enhancement Description
Use drift reduction technologies to reduce the drift of agricultural chemicals away from the intended target when spraying.

Land Use Applicability
Cropland and pastureland

Benefits
Drift reduction will reduce damage to non-target desirable plants and animal habitats and reduce pollution of water bodies. Reducing chemical drift will help to reduce both particulate matter (liquid droplets) in the air and the production of volatile organic compounds, which are an integral part of the formation of ozone, a pollutant in the lower atmosphere. Reduced chemical drift will improve water quality by minimizing the delivery of chemical compounds through the air to water bodies. This enhancement assumes all chemical applications are done according to label directions.

Criteria
Implementation of this enhancement to reduce spray drift of agricultural chemicals requires the use of one or more of the following activities:

1. Use drift reduction nozzles, drops, shielding, pressure adjustment, electrostatic spray technology, or re-circulating spray technology to minimize drift of applied chemical away from targeted area while maintaining required efficacy of pesticide application. See Ozken, H.E. in the references for more information on drift reduction nozzles.
2. Reduce sprayer pressures per the nozzle criteria to produce larger spray droplets, which have a lower tendency to drift. Do not exceed 40-45 psi sprayer pressure.
3. Reduce boom height to the minimum amount allowable (where full coverage is achieved just above the top of the plant canopy) to achieve coverage and minimize the amount of time droplets are in the air before contacting plant or soil surfaces
4. Use spray adjuvants approved for use with the specific pesticide being applied to reduce evaporation of airborne spray droplets, keeping droplets larger so they will settle more quickly onto the targeted plants and soil. See Witt, J.M. for more information on types of spray adjuvant.

Documentation Requirements

1. Documentation for each year of this enhancement describing these items, where applicable:
    a. Written documentation for the type of drift reduction technology used
    b. Acres treated

References

Ozken, H.E. New Nozzles for Spray Drift Reduction. Ohio State University Extension Fact Sheet AEX 523-98. http://ohioline.osu.edu/aex-fact/0523.html

Witt, J. M. Agricultural Spray Adjuvants. Oregon State University Extension. http://psep.cce.cornell.edu/facts-slides-self/facts/gen-peapp-adjuvants.aspx

Wisconsin Supplement 1/11/2011

Written documentation shall include a record of sprayer calibration (including sprayer operating pressure) and a summary of drift reduction practices utilized.

Additional References:

Managing Pesticide Drift in Wisconsin
http://ipcm.wisc.edu/LinkClick.aspx?fileticket=ueoPL1hkMvA%3d&tabid=95&mid=516