ASAE S-572 DROPLET SIZE CLASSIFICATION STANDARD. Robert E. Wolf, Extension Specialist, Biological and Agricultural Engineering, Kansas State University, Manhattan, KS 66506.

The American Society of Agricultural Engineers (ASAE) is a professional and technical organization, of members worldwide, who are dedicated to the advancement of engineering applicable to agricultural, food, and biological systems. ASAE Standards are consensus documents developed and adopted by the society membership to meet the standardization needs within the scope of the society. Standard S-572 (Spray Nozzle Classification by Droplet Spectra) was developed by the ASAE Pest Control and Fertilizer Application Committee; approved by the Power and Machinery Division Standards Committee; and adopted by the society in August 1999.

The purpose of this standard is to define droplet spectrum categories for the classification of spray nozzles, relative to specified reference fan nozzles discharging spray into static air or so that no stream of air enhances atomization. The purpose of the classification is to provide the nozzle user with droplet size information primarily to indicate off-site spray drift potential and secondarily for application efficacy.

Generally the standard is based on spraying water through the reference nozzles and the nozzles to be classified. Nozzle manufacturers that intend to market spray tips will need to test their nozzles against the reference tips and should be measured with a laser-based instrument. The manufacturer can conduct the testing or have it done in an approved testing lab. The standard sets forth the guidelines for completing the test. Droplet spectra measurements for reference nozzles and nozzles being classified shall be performed with the same: instrument; measuring method; sampling technique; scanning technique; operator; and in a similar environmental condition.

Classification categories, symbols, and corresponding color codes are as following: **Very Fine (VF, red); Fine (F, orange); Medium (M, yellow); Coarse (C, blue); Very Coarse (VC, green); and Extremely Coarse (XC, white)**. The reference flow rate and operating pressure are specified for each reference nozzle because droplet size spectra from pressure atomizers are affected by flow rate and operating pressure. The included angle of the fan spray is also specified.

Future product labels will provide droplet spectra information and classification categories to guide applicators in setting up and calibrating sprayers for use in applying crop protection materials. This information will also be useful in handling complaints regarding misapplication which could include reduced efficacy and drift.

For additional information about S-572, link to Standards on the ASAE web site at:

http://www.asae.org/