

IWGO – NEWSLETTER 29 / 1

(each 50.000 to 80.000 seeds) were analysed for dust content by sieving whole seed bags. The amount of dust of a particle size smaller than 0.5mm was in average 3.61g/80.000 seeds and varied from 0.98 to 20.38g. Additionally larger insecticide coated dust particles originating from the seeds were detected with 4.88g/80.000 seeds in average (min. 0.51, max. 38.14g). Most batches having been treated with clothianidin were analysed for their clothianidin content. In average a very high residue content (a.s. clothianidin) of 25.6% of the finer dust (>0,5mm) was found (min. 10.5%, max. 59.1%). Less residues (average 13.4%) were detected on the larger dust particles.

Improving seed coating in maize is urgently needed. A quality insurance system was established in Germany in 2008 and insecticidal seed treatments of maize have to be analysed for abrasion after the seed treatment process using the Heubach test (www.jki.bund.de/heubachtest). At the moment only maize seed batches treated with methiocarb are permitted in Germany if they fulfill a maximum permissible value for particulate matter of 0.75g/100.000 seeds and if additionally only pneumatic sowing machines with an air outlet directed to the soil and a reduced drift profile are used.

Influence of sowing technique of maize on drift of dust

U. Heimbach*, D. Rautmann & H. Ganzelmeier

**JKI-A, Braunschweig, Germany*

Maize sowing machines used today are mostly precision air planters with vacuum singling. In southern Germany, Monosem sowing machines are widespread but Kuhn, Amazone and Gaspardo machines are also used.

The main problem with all sowing machines with vacuum singling is that abrasion dust containing a lot of seed treatment products is blown through the fan outlet into the air and may drift to flowering plants nearby (but also further away).

Together with the manufacturers JKI has established a drift test where modified sowing machines are tested against unmodified ones with high drift. In autumn 2008 machines of all well known manufacturers were tested by the Institute for Application Techniques and those modified proving a drift reduction of at least 90% were registered in the JKI-list "drift reducing maize sowing machines".

In the meantime the legal regulations were modified resulting in both a higher quality of seed coating as well as drift reduction. Maize seeds treated with Mesurool may not be sown by precision air planters with vacuum singling unless they have been modified so that a drift reduction of more than 90% is guaranteed. Precision air planters registered in the JKI-list mentioned above fulfill these demands. This requirement is not relevant for machines with mechanical or overpressure singling.