

**Current and Planned RESEARCH Activities
in the Area of Pesticide Spray/Dust Drift
for inclusion on www.oecd.org/env/spraydrift**

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Title of research project/activity	Spray drift from field crop sprayers using an integrated approach
Area of work (predictive models; field or wind tunnel research, etc.)	spray quality measurements, wind tunnel measurements, field drift experiments, drift modelling
Summary description of project/work (please write about a 5-10 line summary)	This 5-year project studied about drift from field crop sprayers using a unique integrated approach. Indirect (spray quality and wind tunnel measurements) and direct drift experiments (field drift experiments) were performed and drift models were developed to study the effect of spray application technique, droplet characteristics, buffer zones, meteorological conditions, spray liquid properties, border structures and crop characteristics on drift from field crop sprayers. It was found that indirect drift measurements can be a valuable alternative to field drift experiments. A validated 3-D Computational Fluid Dynamics (CFD) mechanistic drift model was developed which can be used for a systemic study of different influencing factors. This model was reduced to a fast 2-D diffusion advection model useful as a hands-on drift prediction tool. From the experiments as well as from the models, the fraction of small droplets and the spray boom height were found to be the most influential spray application factors. Moreover, meteorological conditions as well as crop characteristics have an important effect on the amount of spray drift which can be reduced significantly using intercepting screens or buffer zones. From this study, drift protocols, data and models are made available which help to understand and reduce the complex phenomena of spray drift.

Schedule / Anticipated date for completion or availability of results	Results are available
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Website URL (if available)	<p>Drift from field crop sprayers: The influence of spray application technology determined using indirect and direct drift assessment means: https://lirias.kuleuven.be/bitstream/1979/1047/1/PhD_Spray+drift_David+Nuyttens_finaal2.pdf</p> <p>Drift reduction from field crop sprayers using an integrated approach (in Dutch) www.biw.kuleuven.be/aee/vcbt/drift</p> <p>Development and application of drift prediction models in field spraying https://lirias.kuleuven.be/bitstream/1979/2053/2/katrijnbaetensdoctoraatfinaal.pdf</p> <p>ILVO Spray Tech Lab: www.ilvo.vlaanderen.be/spraytechlab</p>