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Spray drift and spray distribution of end nozzles

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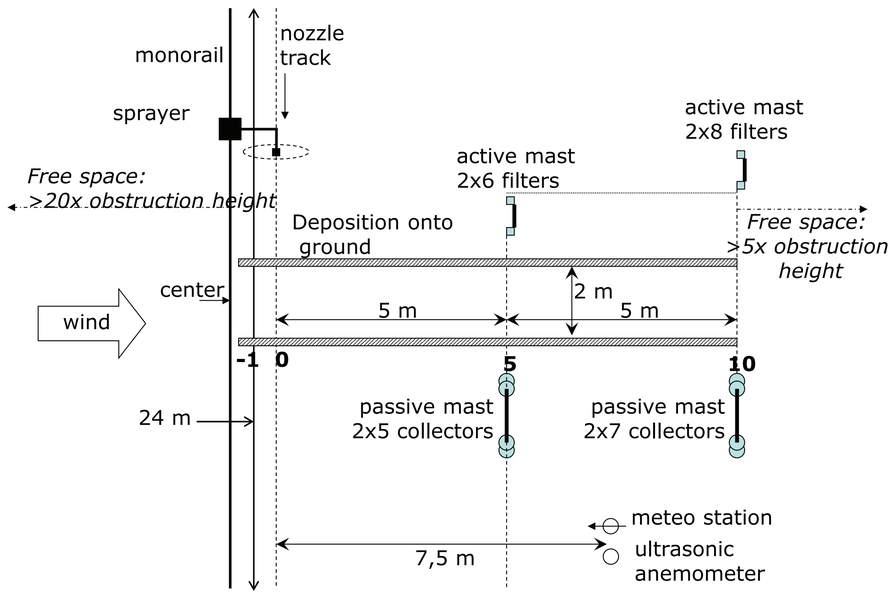
Aim

Determine the effect of different end nozzles on:

- 'Over-the-edge' spraying
- Spray drift in relation with spray quality
- Spray drift when combined with low-drift nozzles on spray boom.

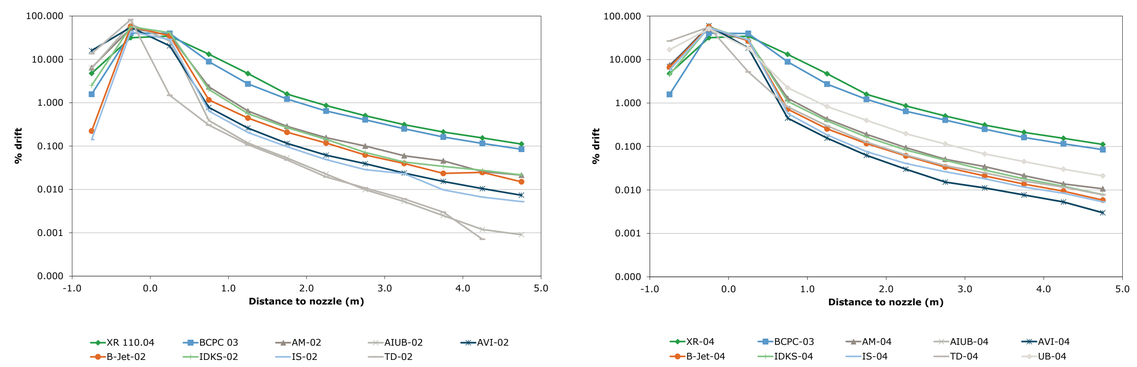
How

- Single nozzle drift measurements
- 8 different end nozzles of 02 and 04 sizes
- Reference nozzles BCPC F/M and XR11004
- Measuring ground deposits from 1 m upwind to 10 m downwind



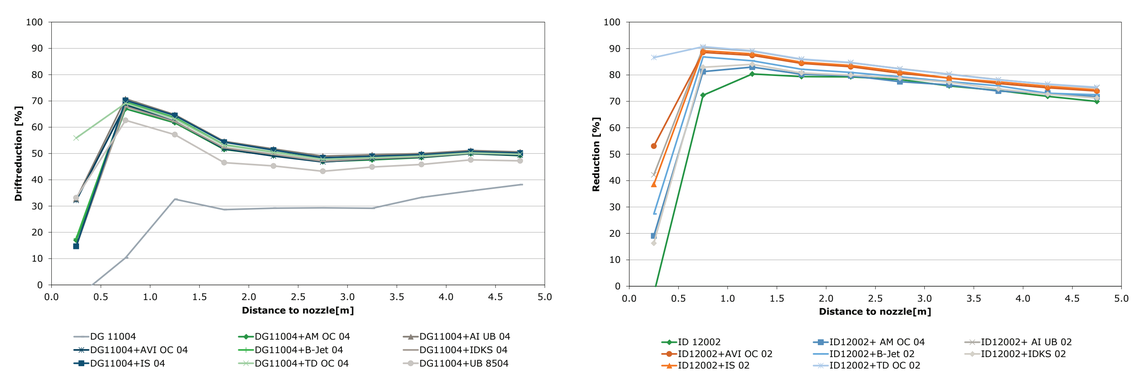
Results

Spray drift deposition of a single end-nozzle.



Spray drift (% of applied dose) of different 02 (left) and 04 (right) end-nozzles.

Effect on drift reduction of end-nozzle in combination with drift reducing nozzles on spray boom.



Simulated spray drift (% of applied dose) of DG11004 (50% drift reducing; left) and ID12002 (75% drift reducing; right) with different end nozzle types.

Conclusions

Drift reduction coincides with lower amounts of drop sizes smaller than 100 µm which suggests that a drift reduction classification system for end nozzles is possible.

Spray drift can be lowered by using an end nozzle especially with spray booms using standard flat fan nozzles and 50% drift reducing nozzles. Effect is limited with spray booms equipped with 75% and 90% drift reducing nozzles.

Results will be used to further validate the IDEFICS spray drift model.

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