Measurement of wind erosion and dust emission triggered by different tillage tools

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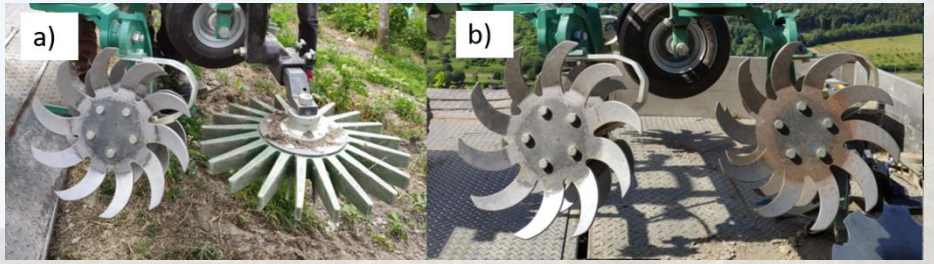
Relevance of topic

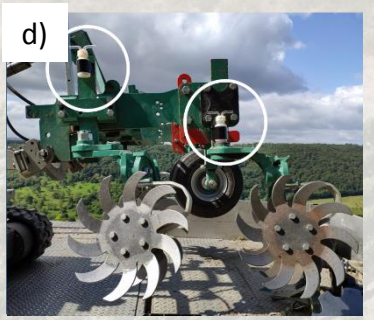
Mechanized vineyard floor tillage aims at minimizing negative impact of weeds on water competition and spread of pests and diseases **without herbicide application**.

The impact of specific cultivation procedures could have a great impact on soil erosion and dust emission in the context of agricultural activities. We tested this hypothesis in steep slope vineyards in the Mosel Region (Germany) by means of measurements of airborne soil material during tillage operations.

Study design



Different tools in combination a) disc plow/ finger weeder, b) disc plows, c) rotary hoe/ finger weeder and d) MWAC sampler installed at carrier system.



First results

Results show differences in amount of colelcted airborne material in total (1) and per site (2).

The specific application procedure thus could provide a powerful measure to adapt soil management to soil conservation strategys in the ciontext of (steep slope) vineyard management.