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Subject Area	Automation & Robotics
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## WeedEraser 3 - Eagle Eye 1

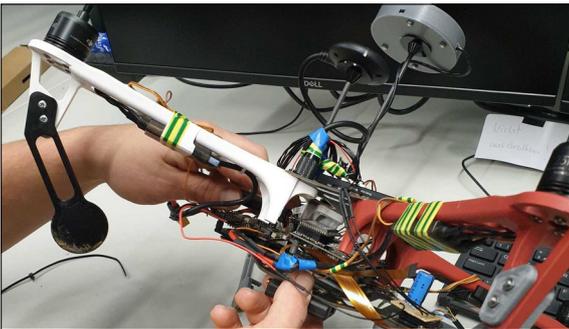


Broad-leaved dock  
[https://en.wikipedia.org/wiki/Rumex\\_obtusifolius](https://en.wikipedia.org/wiki/Rumex_obtusifolius)

**Introduction:** Organic and ecologically intensive dairy farming require new non chemical methods for controlling growth of Broad-leaved dock, a widely distributed weed with negative impact on biodiversity and livestock. A proposed solution is a autonomously driving rover, which annihilates the weed with heated high pressure water, working in collaboration with a weed detecting unmanned arial vehicle (UAV).

**Problem:** To improve the effectiveness of the UAV, the low capacity of lithium polymer accumulators has to be counteracted. By accelerating landing procedure, energy and time will be saved. For this purpose a off-the-shelf UAV is equipped with a intelligent Flight Controller, which is capable of to autonomously control the flight of the UAV and is capable to integrate an array of different sensors.

**Conclusion:** By optimizing the parameters used for the landing procedure, the procedure duration is reduced to 16.4 sec for a spatial distance of 30 m. This achievement represents first optimization step towards autonomous system capable to land on moving platform.



Assembled Unmanned Ariel Vehicle (UAV)  
 Own presentment



UAV during flight and landing tests  
 Own presentment