Identification of vegetal plant species from colour and pattern analysis of drone images

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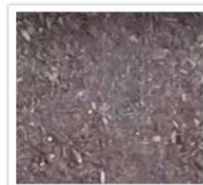SIF.106 - Milano 14-18 Sept 2020

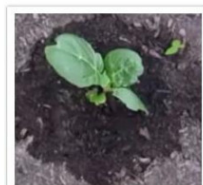# Weed Finding

Chenopodium album

Sinapis a

Methodology

STEPS:
- recognition of background clr
- recognition of plant clr
- subtractive mask generation
- convex hull segmentation

by Joshi et al., 2017, Machine Learning Based Cloud
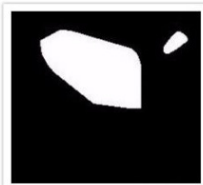Integrated Farming, ICMLSC '17
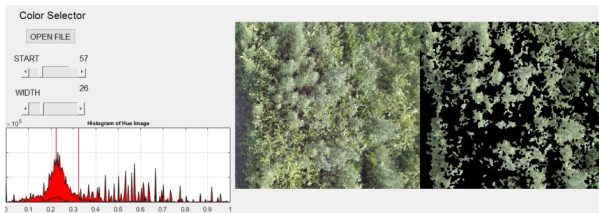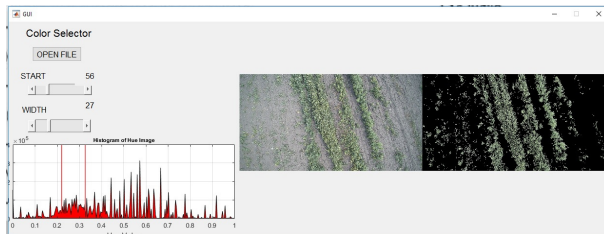

Background image

Plant with weed
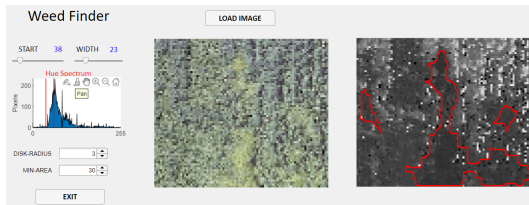

Proposed background subtraction

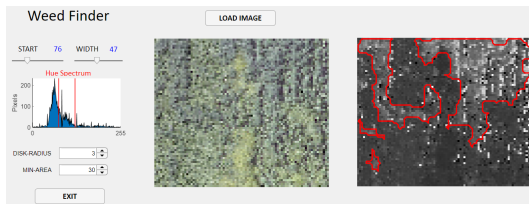Result after morphological
operations and Convex hull

Color-based Identification

Convex Hull Segmentation

Sinapis

Chenopodium

Conclusion

- pesticide reduction is capital and need solutions NOW

- simple methodology from HUE is ready to be ported into the field

- method complementary to initial stage mechanical approaches may reduce use of pesticides of a large percentage

Many thanks for your attention