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KILLING *RUMEX OBTUSIFOLIUS* L. BY HOT-WATER APPLICATION – TECHNICAL NEEDS AND WORKLOAD

DID YOU KNOW?

Hot water denatures and therefore kills the upper part of the *Rumex's* root area, which is able to resprout.

PESTICIDE-FREE CONTROL OF DOCK PLANTS

A pesticide-free control of *Rumex obtusifolius* and other dock species with resproutable taproots can be done by simple use of hot water. A specialised machine is available on the Swiss market. (www.blackenvernichtungsanlage.ch)

TECHNICAL REQUIREMENTS

- Minimum of 1.5 litres of water/plant
- Water temperature of 80-100°C
- Hot water has to surround 10-15 cm of the upper taproot region
- Use rotation nozzle to burst hard soils
- Recommended water pressure of 120 bar
- Hot water has to enclose the root for optimal heat transfer
- Mean oil-fuel consumption for heating water of 0.02 litres/plant

WORK PERFORMANCE, WORKING TIME REQUIREMENT AND COSTS

- Work performance is rising quickly and is approaching a limit of about 145 plants/h
- Working time requirement is constantly rising from 2000 plants/ha upwards
- From approx. 2000 plants/ha, costs are practically constant (labour costs plus machine costs; in this case calculated with Austrian values)
- Comparison with manual digging:
  - Higher work performance
  - Lower working time requirement
  - Marginally higher costs
  - Lower physical effort
- The hot-water procedure is recommended from 2000 plants/ha upwards

Figure 1 - Illustration of hot-water application.

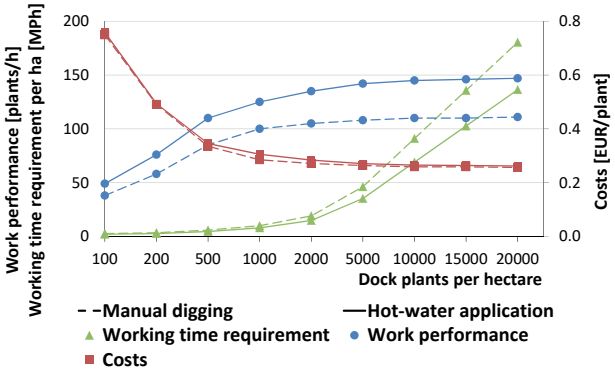

Figure 2 - Work performance, working time requirement and costs of the hot-water procedure for 1 ha. Costs depend strongly on the wage costs in the respective country.

REFERENCES

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