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Tree shape and foliage volume map guided precision orchard sprayer

Fact Sheet

Project Information

PRECI SPRAY

Grant agreement ID: QLK5-CT-1999-01630

Project closed

Start date

1 February 2000

End date

31 January 2004

Funded under

Specific Programme for research, technological development and demonstration on "Quality of life and management of living resources", 1998-2002

Total cost

€ 2 920 418,00

EU contribution

€ 1 657 680,00

Coordinated by

MIGAL - GALILEE TECHNOLOGY CENTER, LTD

 Israel

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Objective

Matching spray volume and direction to tree sizes and shapes can reduce chemical application, thus reducing operational costs and environmental pollution, by 30% and more. A tree-specific variable volume precision orchard sprayer, guided by foliage shape and volume map is proposed. Tree maps will be obtained by a novel 3D aerial survey method, converted from defence applications, and will be incorporated as a layer into a plant protection and orchard management GIS database. The sprayer guidance module will control spray amount and direction according to the foliage structure map. The supporting GIS database will be capable to monitor infestation, utilize plant protection management and decision support systems and to keep automatically detailed records of spray applications, from the guidance system feedback.

Fields of science (EuroSciVoc)

[agricultural sciences](#) > [agriculture, forestry, and fisheries](#) > [agriculture](#) > [agronomy](#) > [plant protection](#)

[natural sciences](#) > [computer and information sciences](#) > [databases](#)

[natural sciences](#) > [earth and related environmental sciences](#) > [physical geography](#) > [cartography](#) > [geographic information systems](#)

[natural sciences](#) > [earth and related environmental sciences](#) > [environmental sciences](#) > [pollution](#)



Programme(s)

Topic(s)

[1.1.1.-5. - Key action Sustainable Agriculture, Fisheries and Forestry](#)

Call for proposal

Data not available

Funding Scheme

[CSC - Cost-sharing contracts](#)

Coordinator



MIGAL - GALILEE TECHNOLOGY CENTER, LTD

EU contribution

No data

Total cost

No data

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EU contribution

No data

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Total cost
No data



GISHA SYSTEM LTD

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EU contribution
No data

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Total cost
No data



HARDI INTERNATIONAL AS

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EU contribution
No data

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Total cost
No data



LANDESANSTALT FUER PFLANZENBAU UND PFLANZENSCHUTZ

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EU contribution
No data

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Total cost

No data



PRAKTIJKONDERZOEK PLANT AND OMGEVING B.V.

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EU contribution

No data

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Total cost

No data



THE AGRICULTURAL RESEARCH ORGANISATION OF ISRAEL - THE VOLCANI CENTRE

 Israel

EU contribution

No data

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Total cost

No data

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European Union, 2025