Data from: Undersowing oats with clovers supports pollinators and suppresses arable weeds without reducing yields

SND-ID: 2022-258-1.

Associated documentation

Boetzl-FA-et-al-2023.pdf *(1.95 MB)*

readme.txt *(4.63 KB)*

Download all files

2022-258-1-1.zip *(~1.95 MB)*

Citation

Boetzl, F., & Lundin, O Data from: Undersowing oats with clovers supports pollinators and suppresses arable weeds without reducing yields [Data set]. Swedish University of Agricultural Sciences. Available at: https://hdl.handle.net/20.500.12703/4002

Creator/Principal investigator(s)

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Research principal

Swedish University of Agricultural Sciences - Department of Ecology

Principal's reference number

SLU.ekol.2022.4.4.lÄ-21

Description

We studied the effects of undersowing oats with a mixture of three annual clovers species across different aspects of cropping system multi-functionality using 26 observation plots in a paired field design with 13 fields. We investigated 16 below-and above-ground ecosystem service indicators related to soil mineral nitrogen, arable weed control, pollination, disease and pest pressures, natural pest control and crop yield. We measured each of the 16 ecosystem service indicators in an intercropped and in a control treatment with identical management. Some indicators were measured before and after the experiment in both treatments to assess the magnitude of change by the treatment.
For further information, see methods in the publication Boetzl et al. (2023) Undersowing oats with clovers supports pollinators and suppresses arable weeds without reducing yields. Journal of Applied Ecology.

The data in the 'combined_dataset.csv' file have information on different ecosystem service indicators collected in 13 fields ('field_ID') and two treatments per field (intercropped and control). 27 rows.

The 16 ecosystem service indicators contained are: soil mineral nitrogen (before and after the experiment), arable weed cover, arable weed biomass, granivorous carabid beetle density, flower

cover, pollinator density, root disease severity (before and after the experiment), root-feeding nematode density (before and after the experiment), cereal leaf beetle damage, predatory nematode density (before and after the experiment), predatory carabid beetle density, staphylinid beetle density, spider density, predation rates on the soil level, oat yield and oat yield nitrogen content. Additionally, the biomass of undersown clovers in the intercropped treatment, the area covered by the intercropped treatment, the field size and the arable land cover in 1 km radius around the oat field are stated.

Data contains personal data

Yes

Type of personal data

Data contains information about management and status of crop fields. A code key (not published) can connect this data to the grower

Code key exists

Yes

Language

English

Time period(s) investigated

2020-03 – 2021-03

Data format / data structure

Numeric

Species and taxons

Apoidea
Carabidae latreille, 1802
Araneae
Staphylinidae

Data collection 1

- Mode of collection: Experiment
- Time period(s) for data collection: 2020-03 – 2021-03
- Data collector: Swedish University of Agricultural Sciences

Geographic spread

Geographic location: Sweden, Stockholm County, Uppsala County, Södermanland County, Västmanland County

Geographic description: 13 oat fields in the four counties Södermanland, Stockholm, Uppsala and Västmanland in south-central Sweden.

Responsible department/unit

Department of Ecology

Contributor(s)

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Funding

- Funding agency: FORMAS
- Funding agency's reference number: 2019-01294
- Project name on the application: Undersådda blommande baljväxter för multifunktionell svensk spannmålsodling

Research area

Biological sciences (Standard för svensk indelning av forskningsämnen 2011)

Ecology (Standard för svensk indelning av forskningsämnen 2011)

Agricultural and veterinary sciences (Standard för svensk indelning av forskningsämnen 2011)

Agricultural science (Standard för svensk indelning av forskningsämnen 2011)

Farming (INSPIRE topic categories)

Environment (INSPIRE topic categories)

Keywords

Ecosystem services, Habitats and biotopes, Cereal crops, Bumblebees, Nematodes, Intercropping, Ecological intensification, Ground dwelling predators, Carabid beetles

Publications

Boetzl, F.A., Douhan Sundahl, A., Friberg, H., Viketoft M., Bergkvist, G. & Lundin, O. (2023). Undersowing oats with clovers supports pollinators and suppresses arable weeds without reducing yields. Journal of Applied Ecology 60: 614-623.
DOI: https://doi.org/10.1111/1365-2664.14361

If you have published anything based on these data, please notify us with a reference to your publication(s). If you are responsible for the catalogue entry, you can update the metadata/data description in DORIS.

Polygon (Lon/Lat)

17.951731, 60.007225

16.633102, 59.95776

16.11148, 59.764694

15.595325, 59.509242

15.644537, 59.094204

16.43007, 58.827961

16.874986, 58.762503

17.369494, 58.773896

17.792391, 58.98116

18.088801, 59.327585

18.226381, 59.64554

18.292291, 59.833775

18.264891, 60.009971

17.951731, 60.007225

Accessibility level

Access to data through an external actor
Data are freely accessible

Contacts for questions about the data

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Download metadata

DataCite

DDI 2.5

DDI 3.3

DCAT-AP-SE 2.0

JSON-LD

PDF

Citation (CLS)

File overview (CSV)