

Alessandra Virili, PhD

KEYWORDS

Agroecology, weeds, horticulture, arable crops

EXPERIENCE

Postdoc (University of Udine. Udine, IT)

(Mar 2024 - Present)

Experimental management in the “ECO-DRESS” project – “ECOsystem services enhancement in DiveRsifiEd Soybean-based Systems”.

- **Teaching Support**

(Mar 2024 - June 2024)

Provided support for a total of 10 hours (Agronomy) in activities such as **field practice outings** (e.g., weed identification, observation of crop traits and phenology) and gave a **lecture** on integrated weed management to the MSc students in Agricultural Sciences and Technologies.

(Mar 2025 - June 2025)

Provided support for a total of 20 hours (Agronomy and Field Crops) in activities such as **field practice outings** (e.g., weed identification, observation of crop traits and phenology) and gave a **lecture** on integrated weed management to the MSc students in Agricultural Sciences and Technologies.

- **Activities and Collaborations**

- “LEGITA”: provision on field support in intercropping trials involving chickpea and spring wheat.
- “Agritech National Center”: active member of an interdisciplinary group focused on integrating AI technologies in the field of species recognition and cover estimation in real-world conditions.
- “RE-CEREAL”: was entrusted by prof. Miceli with the data analysis from a buckwheat trial carried out in 2017-2018. My significant contribution in the writing of the manuscript made me first and corresponding author; the paper was accepted within one year of starting the task.
- Reviewer for “European Journal of Agronomy”, “Agronomy for Sustainable Development” and “GCB Bioenergy”.

- **Students**

Co-supervisor of six BSc students in Agricultural Sciences, of two MSc student in Agricultural Sciences and Technologies, and of two interns from UniLaSalle.

Postdoc (University of Udine. Udine, IT)

(Mar 2023 - Feb 2024)

Experimental management in the “PSD CIBIAMO” project – “Favouring sustainable production of grain legumes through crop diversification”. Provided field support and protocol development for the first year of an experimental trial involving chickpea and spring wheat in collaboration with colleagues from the Scuola Superiore Sant’Anna (Pisa, IT)

Internship (“L’Orto Felice”. Udine, IT)

(Feb 2016 - June 2016)

Assistant agronomist in the vegetable production and management in an organic farm.



EDUCATION

PhD in Agrobiodiversity

(2018-2022) (Thesis defence: 11 November 2022)

Scuola Superiore Sant'Anna (Pisa, IT). Thesis title: "Investigating Weed-Crop Interactions and Potential Weed-mediated Agro-Ecosystem Services in Horticulture"

Double MSc in Organic Agriculture and Agroecology

(2016-2018) (Graduated: 31 October 2018)

Graduated in Organic Agriculture at Wageningen University, NL (Grade: 8/10); Graduated in Agroecology at ISARA Lyon, FR (Grade: A-). Thesis title: "Characterizing **functional traits** of the **weed** community in Chianti vineyards: effects on vine growth and water stress dynamics" (at Scuola Superiore Sant'Anna, IT).

- **Internship** at NIOO- KNAW (Wageningen, NL)

(Feb 2017 - June 2017)

Worked in the department of terrestrial ecology in a plant-soil feedback experiment with a post-doc researcher. I contributed to the experimental design, data collection and data analysis.

Bachelor's degree in Agricultural Sciences

(2012-2015) (Graduated: 6 October 2015)

University of Udine (Grade: 103/110). Thesis title: "Use of **interactions** among plants to improve sustainability in agroecosystems".

PUBLICATIONS

Dylan Warren Raffa, Alessandra Virili, Stefano Carlesi, Daniele Antichi, and Paolo Barberi. "Soil management shapes the functional diversity of the inter-row vegetation in Mediterranean vineyards". *Agronomy for Sustainable Development* 45, no. 4 (2025): 46.

Marco Sozzi, Alessandra Virili, Wendy C. Vernaza-Cartagena, Giacomo Manera, Rino Gubiani, Elisa Marraccini, Vittoria Giannini, and Marco Bietresato. "Mechanization of Field Plot Experiments Designed to Test Different Intercropping Layouts." In *2024 IEEE International Workshop on Metrology for Agriculture and Forestry (MetroAgriFor)*, pp. 637-642. IEEE, 2024.

Alessandra Virili, Raffaella Petris, and Fabiano Miceli. "Late summer sowing positively affects yield of lowland buckwheat in Northeastern Italy." *Italian Journal of Agronomy* 19, no. 4 (2024): 100022.

Alessandra Virili, Daniel Marusig, Gemini Delle Vedove, and Elisa Marraccini. "Buckwheat (*Fagopyrum esculentum* Moench.) as an emerging companion crop in annual cropping systems: a systematic review." *Italian Journal of Agronomy* (2024).

Alessandra Virili, and Anna-Camilla Moonen. "Reduced weeding shows potential to regulate nutrient leaching in a cabbage (*Brassica oleracea*, var. capitata) lysimeter trial." *Agriculture, Ecosystems & Environment* 367 (2024): 108987.

Alessandra Virili, and Anna-Camilla Moonen. "Minimal Necessary Weed Control Does Not Increase Weed-Mediated Biological Pest Control in Romaine Lettuce (*Lactuca sativa* L., var. Romana)." *Horticulturae* 8, no. 9 (2022): 787.

Dylan Warren Raffa, Daniele Antichi, Stefano Carlesi, Massimo Sbrana, Alessandra Virili, Angela Puig Sirera, Giovanni Rallo, and Paolo Barberi. "Exploring the effects of vineyard soil management on spontaneous vegetation, soil health, vine growth and grape quality: preliminary results from Chianti Classico." In *Geophysical Research Abstracts*, vol. 21. 2019.



CONFERENCES

AgroEcology Europe (AEEU) (Crete, GR – 2019). “Critical Period of Weed Interference in Lettuce” (poster) by **Alessandra Virili**, Cian Blaix, Anna-Camilla Moonen.

European Weed Research Society* (EWRS) (Athens, GR – 2022). “Increased Weed Diversity Mitigates Weed Competition with Romaine lettuce (*Lactuca sativa* L., var. Romana)” (oral presentation) by **Alessandra Virili** and Anna-Camilla Moonen; “Reduced weeding compromises cabbage (*Brassica oleracea*, var. capitata) yield but shows potential to reduce nutrient leaching in autumn” (poster) by **Alessandra Virili**, Alberto Mantino and Anna-Camilla Moonen.

Società Italiana di Agronomia (SIA) (Portici, IT – 2023). “Allelopathic effect of buckwheat (*Fagopyrum esculentum* L.) on germination and performance of crops and weeds: a comprehensive methodology” (poster) by **Daniel Marusig**, Alessandra Virili, Gemini Delle Vedove, Elisa Marraccini. Winner of “best poster award”.

Associazione Italiana Società Scientifiche Agrarie (AISSA) <40 (Firenze, IT – 2024). “ECOsystem services enhancement in DiveRsified Soybean-based Systems (ECO-DRESS)” (poster) by **Alessandra Virili**, Elisa Marraccini, Desiderato Annoscia, Marco Bietresato, Maurizio Borin, Gemini Delle Vedove, Roberta Masin, Carmelo Maucieri, Alberto Pozzebon, Marco Sozzi, Wendy Carolina Vernaza Cartagena, Vittoria Giannini

European Society of Agronomy (ESA) (Rennes, FR – 2024). “Intercropping chickpea and lentil with buckwheat: effect on weed suppression and legume yield” (poster) by **Alessandra Virili**, Daniel Marusig, Elisa Marraccini, Gemini Delle Vedove; “A collaborative approach to diversified soybean-based cropping system: design of four OFE in North-Eastern Italy” (poster) by **Vittoria Giannini**, Wendy Vernaza Cartagena, Alessandra Virili, Maurizio Borin, Gemini Delle Vedove, Carmelo Maucieri, Elisa Marraccini.

Invited to be **chairwoman** in session 7.3: “Climate Change Adaptation and Mitigation” in which six presentations were given, the role required mediating the discussions after each talk and producing a summary report linking the presentations to the general topic of the session. The presentations given by PhD students were assessed based on clarity, novelty and content and the information was provided to the evaluation committee for the award of best oral presentation.

SIA** (Matera, IT – 2024). “An overview of soybean-based cropping systems in North-Eastern Italy” (elevator pitch) by **Alessandra Virili**, Wendy Vernaza Cartagena, Marco Borin, Carmelo Maucieri, Vittoria Giannini, Elisa Marraccini .

Farming Systems Design (FSD) (Paris-Saclay, FR – 2025). “Soybean-buckwheat intercropped systems to support grain production and pest control in North-Eastern Italy” (oral presentation) by **Vernaza Cartagena Wendy Carolina**, Virili Alessandra, Pozzebon Alberto, Scaccini Davide, Marraccini Elisa, Giannini Vittoria. “Expanding Chickpea Cultivation Area Towards Northern Italy: Effects on Yield and Yield Stability” (oral presentation) by Marusig Daniel, Triacca Alessandro, Virili Alessandra, Nerucci Gabriele, Leoni Federico, Moonen Anna-Camilla, Marraccini Elisa.

SIA (Torino, IT – 2025). “Buckwheat promotes honeybee and small wild bee (Apoidea) foraging in diversified soybean-based cropping systems” (poster) by **Elena Cargnus**, Desiderato Annoscia, Davide Frizzera, Davide Scaccini, Alessandra Virili, Wendy Carolina Vernaza Cartagena, Alberto Pozzebon, Elisa Marraccini, Vittoria Giannini. “An AI-based annotation tool for measuring crop and weed cover increases novice observer survey precision” by **Alessandra Virili**, Beatrice Portelli, Alex Falcon, Alessandro Peressotti, Giuseppe Serra, Elisa Marraccini; winner of “best poster award”.

Rapporteur at the “Research and Education in Agroecology” workshop.

*member from 2022 to 2023

** member from 2024