



<p style="text-align: center;"><b>Dottorato di Ricerca in Scienze delle Produzioni Vegetali e Animali</b> <b>PhD Programme in Plant and Animal Science</b> <b>Codice del Corso di Dottorato/PhD code: DOT1335834</b> <b>Coordinatore/Coordinator: Prof. Roberta BERNINI</b></p>
<p style="text-align: center;"><b>Scheda delle attività svolte/Form activities carried out</b></p>
<p><b>Informazioni generali/General information</b></p>
<p>Ciclo/Cycle Plant and animal production sciences, 35<sup>th</sup> cycle, regulation 2019/2020</p>
<p>Dottorando/PhD student Mohamed Allam</p>
<p>Posizione/Position <input checked="" type="checkbox"/> Con borsa di studio/With scholarship <input type="checkbox"/> Senza borsa di studio/Without scholarship <input type="checkbox"/> Riservata a dipendenti di enti di ricerca/Reserved for research center employees <input type="checkbox"/> Dottorato industriale/Industrial PhD <input type="checkbox"/> Altra tipologia/Other typology</p>
<p>Tutor/Supervisor Dr. Agr. Roberto Mancinelli, Ph.D.</p>
<p>Affiliazione/Affiliation Associate Professor - University of Tuscia - Dept. DAFNE</p>
<p>Co-tutor Dr. Emanuele Radicetti</p>
<p>Affiliazione/Affiliation University of Ferrara - UNIFE</p>
<p><b>Attività di ricerca/Research activity</b></p>
<p>Sede prevalente dell'attività di ricerca/Main place of research University of Tuscia</p>
<p>Breve descrizione dell'attività di ricerca/Short description of the research activity (Max 5000 caratteri, inclusi gli spazi/Max 5000 characters, included spaces)</p> <p><b>Study 1</b> Value for Cultivation and Use (VCU) is a variety testing system performed to assess whether a variety has characteristics and properties that affect improvement in cultivation or in the utilization of the harvest or its products in comparison to the existing listed varieties. The aim of the study is to evaluate influenced characters which contribute to the value of a variety to growers and end-users, named Value for Cultivation and Use (VCU). Field experiment: The experimental VCU testing was conducted using 45 durum wheat and 45 bread wheat varieties. Varieties were tested under different treatments (control conditions, drought stress, different concentration of fungicides). All trials were conducted using factorial, split-plot designs with 3 replications of each treatment. Varieties randomised as sub-plots within main plots and all varieties included in each main plot. Different measurements related to agronomic, stress tolerance, yield and yield components were collected. In addition, chlorophyll concentration and RGB images for each plot were collected at least 4 time points to study the growth development during all crop season.</p> <p><b>Study 2</b> Conservation tillage practices become more and more attractive to farmers regarding labour and fuel costs, as ploughing is the most energy demanding process in the production of arable crops (FAO, 2017). It has been reported that systems such as reduced or minimum tillage (RT), and no tillage (NT) represent a suitable alternatives to the conventional practice (CT), regarding their impact on soil and environment. Another sustainable and environmentally friendly practice is</p>



reducing the use of the chemical or inorganic (M) fertilization and more depending on other substitutes such as mixed inorganic/organic (MO) or sole organic (O) fertilizers. It has been reported that such low-cost alternative nutrient managements could improve productivity, sustainability, and profitability.

The aim of the study is to evaluate the effects of the organic fertilization application in association with conservative agronomic practices on durum wheat - potato rotation cropping system in Mediterranean agricultural conditions.

Field experiment: the trial series consist of different soil tillage practices (such as conventional and reduced tillage) and fertilization managements (inorganic and organic nutrient sources). Yield, yield components, quality related traits were collected. In addition, chlorophyll concentration and RGB images for each plot were collected in to study the growth development during all crop season. Moreover, soil samples were taken in different time points to measure soil parameters.

Publicazioni scientifiche/Scientific publications

(Indicare tutte le informazioni bibliografiche dei lavori pubblicati e sottomessi/Indicate all references of published and submitted papers)

Mancinelli, R.; Marinari, S.; Allam, M.; Radicetti, E. Potential Role of Fertilizer Sources and Soil Tillage Practices to Mitigate Soil CO<sub>2</sub> Emissions in Mediterranean Potato Production Systems. *Sustainability* 2020, *12*, 8543. <https://doi.org/10.3390/su12208543>

Allam, M.; Radicetti, E.; Petroselli, V.; Mancinelli, R. Meta-Analysis Approach to Assess the Effects of Soil Tillage and Fertilization Source under Different Cropping Systems. *Agriculture* 2021, *11*, 823. <https://doi.org/10.3390/agriculture11090823>

Petroselli, V.; Radicetti, E.; Langeroodi, A.S.; Allam, M.; Mancinelli, R. Weed Spectrum in Durum Wheat under Different Soil Tillage and Fertilizer Application in Mediterranean Environment. *Sustainability* 2021, *13*, 7307. <https://doi.org/10.3390/su13137307>

Marinari, S.; Radicetti, E.; Petroselli, V.; Allam, M.; Mancinelli, R. Microbial Indices to Assess Soil Health under Different Tillage and Fertilization in Potato (*Solanum tuberosum* L.) Crop. *Agriculture* 2022, *12*, 415. <https://doi.org/10.3390/agriculture12030415>

Allam, M.; Radicetti, E.; Quintarelli, V.; Petroselli, V.; Marinari, S.; Mancinelli, R. Influence of Organic and Mineral Fertilizers on Soil Organic Carbon and Crop Productivity under Different Tillage Systems: A Meta-Analysis. *Agriculture* 2022, *12*, 464. <https://doi.org/10.3390/agriculture12040464>

Mancinelli, R.; Marinari, S.; Atait, M.; Petroselli, V.; Chilosi, G.; Jasarevic, M.; Catalani, A.; Abideen, Z.; Mirzaei, M.; Allam, M.; Radicetti, E. Durum Wheat–Potato Crop Rotation, Soil



	<p>Tillage, and Fertilization Source Affect Soil CO<sub>2</sub> Emission and C Storage in the Mediterranean Environment. <i>Land</i> 2023, 12, 326. <a href="https://doi.org/10.3390/land12020326">https://doi.org/10.3390/land12020326</a></p> <p>Mancinelli, R.; Allam, M.; Petroselli, V.; Atait, M.; Jasarevic, M.; Catalani, A.; Marinari, S.; Radicetti, E.; Jamal, A.; Abideen, Z.; Chilosi, G. Durum Wheat Production as Affected by Soil Tillage and Fertilization Management in a Mediterranean Environment. <i>Agriculture</i> 2023, 13, 433. <a href="https://doi.org/10.3390/agriculture13020433">https://doi.org/10.3390/agriculture13020433</a></p> <p>Allam, M.; Bazok, R.; Bordewick-Dell, U.; Czarniecka-Skubina, E.; Kazimierczak, R.; Laikoja, K.; Luik, A.; Fuka, M.M.; Muleo, R.; Peetsmann, E.; Petroselli, V.; Roasto, M.; Średnicka-Tober, D.; Veith, M.; Mancinelli, R.; Trafialek, J. Assistance Needed for Increasing Knowledge of HACCP Food Safety Principles for Organic Sector in Selected EU Countries. <i>Sustainability</i> 2023, 15, 6605. <a href="https://doi.org/10.3390/su15086605">https://doi.org/10.3390/su15086605</a></p> <p>Roberto Mancinelli; Mohamed Allam; Verdiana Petroselli; Mariam Atait; Nóra Mendlerné; Davide Meriggi; Marco Maccaferri Effect of environment on yield stability of commercially popular varieties of durum and bread wheat Under submission to field and crop research journal</p>
<p>Comunicazioni a congressi/Conferences communications (Specificare se comunicazioni poster o comunicazioni orali/Specify if poster or oral communications)</p>	<p>Congresso Societa Italiana di Agronomia, SIA Mancinelli R., Allam M., Petroselli V., Papetti P., Radicetti E., 2020. Effects of soil tillage and fertilization on the arsenic uptake in durum wheat. Proceedings XLIX Convegno SIA, "Gestione sostenibile dei sistemi colturali", 16-18 settembre 2020</p> <p>Congresso Societa Italiana di Agronomia, SIA Radicetti E., Allam M., Petroselli V., Mancinelli R., 2020. Effect of soil tillage and fertilization on sorghum (<i>Sorghum vulgare</i> Pers.) crop. Proceedings XLIX Convegno SIA, "Gestione sostenibile dei sistemi colturali", 16-18 settembre 2020</p>



Congresso Società Italiana di Agronomia, SIA Radicetti E., Petroselli V., Allam M., Mancinelli R., 2021. Soil tillage and fertilization effects on durum wheat and weeds interaction in Mediterranean environment Proceedings Convegno SIA, "Integrated weed management: new tools and strategies", 15-17 settembre 2021

Congresso Società Italiana di Agronomia, SIA Mancinelli R., Petroselli V., Allam M., Radicetti E., 2021 Effects of different soil tillage methods and fertilization potato crop Proceedings Convegno SIA, "Agricultural models for impacts mitigation", 15-17 settembre 2021

Congresso Società Italiana di Agronomia, SIA Weed Community Evolution In Durum Wheat-Potato Rotation After 4-year Of Organic And Mineral Fertilization Quintarelli Valentina, Radicetti Emanuele, Petroselli Verdiana, Allam Mohamed, Roberto Mancinelli

Congresso Società Italiana di Agronomia, SIA Processing Tomato Has Affected By Barrier And Curzate In Different Soil Fertilization Petroselli Verdiana, Radicetti Emanuele, Palomba Ivan, Allam Mohamed, Atait Mariam, Quintarelli Valentina, Roberto Mancinelli

Congresso Società Italiana di Agronomia, SIA Fertilizer Source Affects Crop Yield Under Different Tillage Practices: A Meta-analysis. Allam Mohamed, Roberto Mancinelli, Petroselli Verdiana, Atait Mariam, Quintarelli Valentina, Radicetti Emanuele

Congresso Società Italiana di Agronomia, SIA Carbon Flux As Affected By Different Winter Cover Crops Atait Mariam, Roberto Mancinelli, Allam Mohamed, Petroselli Verdiana, Quintarelli Valentina, Radicetti Emanuele

Congresso Società Italiana di Agronomia, SIA Effect of environment on yield stability of commercially popular varieties of durum and bread wheat. Allam Mohamed, Petroselli Verdiana, Atait Mariam, Roberto Mancinelli



Brevetti/Patents (Specificare/Specify)			
Altre tipologie di pubblicazioni/Other publications (Specificare/Specify)			
<b>Attività formative/Training activities</b> (Elencare tutte le principali attività svolte e, per ciascuna di esse, indicare i dati richiesti/List the main activities and for each specify of them the data)			
Frequenza di corsi/Partecipation in courses	Titolo/Title	Località/Location	Data/Date
Partecipazione a seminari/ Partecipation in seminars			
Partecipazione a convegni, workshop, scuole/Partecipation in workshop, schools			
Stage in Italia e/o all'estero/Internship in Italy and/or abroad (Indicare la località e descrivere brevemente il tipo di attività svolta/Indicate the location and describe briefly the activity carried out)	Research training	University of Debrecen (UNIDEB), Nyíregyháza, Hungary	1 March to 30 April 2023
Altre attività formative/Further educational activities (Indicare la località e descrivere brevemente il tipo di attività svolta/Indicate the location and describe briefly the activity carried out)			
<b>Attività di didattica integrativa/Teaching activity</b> (Elencare tutte le attività svolte e, per ognuna, indicare i dati richiesti/List all activities and specify for each of them the data)			
Attività di tutoraggio e didattico- integrative/Tutorship activities	Titolo/Title	Località/Location	Data/Date
Seminari in corsi di laurea/Seminars in master degrees (Indicare il titolo, la località, la data/Specify the title, the location and the date)	InnoVar project	Next-generation variety testing for improved cropping on European farmland, is a Horizon 2020 'Research and Innovation Action' project addressing the topic SFS-29-2018	



		'Innovations in plant variety testing'.	
	SAFE-ORGfood project	The European project "Transnational Quality Education for Organic Food Safety (SafeOrg Food)" ( <a href="http://safe-orgfood.eu">http://safe-orgfood.eu</a> ), in which were involved five European countries: Croatia, Estonia, Germany, Italy, and Poland.	
Data/Date 09-05-2023			
Firma Dottorando/Signature PhD student <i>Mohamed Allam</i>			
Firma Tutor/Signature Supervisor <i>[Signature]</i>			