

**ABBREVED CURRICULUM VITAE (CVA) – maximum 4 PAGES**

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**Part A. PERSONAL INFORMATION**

<b>CV date</b>	08/06/2023
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First and Family name	Francisco Javier López Escudero		
Social Security, Passport, ID number		Age	
Researcher codes	Open Researcher and Contributor ID (ORCID**)	0000-0002-3085-0992	
	SCOPUS Author ID (*)		
	WoS Researcher ID (*)		

(\*) *Optional*

(\*\*) *Mandatory*

**A.1. Current position**

Name of University/Institution	University of Cordoba		
Department	Agronomy		
Address and Country	Campus Universitario Rabanales, Edif. C4. Ctra. Madrid km 396, 14071 Córdoba Spain		
Phone number	+34957218528	E-mail	<a href="mailto:ag2loesj@uco.es">ag2loesj@uco.es</a>
Current position	Associate Professor of Plant Pathology	From	4/6/2008
Key words	Plant Pathology, Diseases of Mediterranean crops, Verticillium wilts, olive		

**A.2. Education**

PhD, Licensed, Graduate	University	Year
Agricultural Engineer	Córdoba	13/07/1993
Doctor Agricultural Engineer	Córdoba	25/05/1999

**A.4. General indicators of quality of scientific production** (*see instructions*)

Nº of sexenios: 3. Number of doctoral thesis conducted in the last 10 years: 6

Total citations: 892 (Google Scholar). Average appointments / year during the last 5 years: 117.6 (Google Scholar). Total publications in first quartile (Q1): 25

**Part B. CV SUMMARY**

Assistant Professor in Plant Pathology. He has been involved since 1994 in the research group "Patología Agroforestal" (AGR-216) from Cordoba University, Spain. His main line of research, from the last 25 years, has focused on the epidemiology and control of diseases of the olive tree. In any case, his research career has been almost completely linked to Verticillium wilt of olive, caused by Verticillium dahliae, the most serious disease of this crop nowadays. His main contributions correspond to studies on the importance of disease etiology, epidemiology and diagnosis (in particular the quantification of the pathogen in soil, the dispersion of its infective structures, inoculum potential, and the influence of cultural factors (such as irrigation or fertilization), and control (particularly solarization, use of organic amendments, and genetic resistance). Resistance has been the most important research line in the integrated control of the disease and has mainly approached the identification of resistance in olive genotypes (commercial varieties, wild olive and pre-selections and crossings) in the frame of The Olive Breeding Program of Cordoba University, started in 1995. Linked to this main item, He has worked in improving the effectiveness of inoculation methods, disease recovery, grafting on resistant cultivars, and interactions of resistance with several cultural practices. All these works have been developed in experiments in controlled environment and, subsequently have been or are being validated under field

conditions in comparative trials. In the last 8 years, responsible of the Plant Production, Protection and master, and the Plant Protection master at the UCO (Spain).

## **Part C. RELEVANT MERITS**

### **Summary of scientific and teaching merits**

PhD thesis supervised: 6

Master thesis supervised: 18

Final Degree thesis supervised: 29

Scientific publications in SCI international journals: 47

Scientific publications in non-SCI international journals: 6

Technical and scientific dissemination publications: 26

Books, book chapters: 15

Participation in congresses: international (40), national (54)

Courses and seminars: international (17), national (22)

Presentations and seminars on transfer to the sector (14)

R&D projects funded by public administration: 15: As responsible 4 (678.250 €). As participant 11 (3.943.755 €)

Contracts and collaborations with private companies: 27: As responsible 15 (267.537 €). As participant 12 (2.375.603 €)

Stays in national or foreign universities or research centers: 4

Collaborations with European research groups: 8

Reviewer of scientific journals: those of the area

Member of Scientific Societies: 3

Grants (3) and Academic and Research awards (4)

Free profession: Self-Employed: Address of an olive grove farm (4,595 days)

### **C.1. Publications SCI**

Lopez Escudero, F. J.; Blanco Lopez, M. A. 1999. First report of transmission of *Verticillium dahliae* by infested manure in olive orchards in Andalusia (Southern Spain). *Plant Disease*. 83: 1178. <http://dx.doi.org/10.1094/PDIS.1999.83.12.1178B>

Lopez Escudero, F. J.; Blanco Lopez, M. A. 2001. Effect of a Single or Double Soil Solarization to Control *Verticillium* Wilt in Established Olive Orchards. 2001. *Plant Disease* 85: 489-495.

López Escudero, F. J.; del Río, C.; Caballero, J. M., Blanco López, M. A. 2004. Evaluation of olive cultivars for resistance to *Verticillium dahliae*. 2004. *European Journal of Plant Pathology* 110: 79-85. 10.1023/B:EJPP.0000010150.08098.2d

López Escudero, F. J., Blanco López, M. A. 2005. Effects of drip irrigation on population of *Verticillium dahliae* in olive orchards. *Journal of Phytopathology*. 153: 238-239. DOI: 10.1111/j.1439-0434.2005.00961.x

López Escudero, F. J., Blanco López, M. A. 2005. Recovery of young olive trees from *Verticillium dahliae*. *European Journal of Plant Pathology* 113: 367-375. DOI 10.1007/s10658-005-3145-0

Martos-Moreno, C., López Escudero, F. J., Blanco López, M. A. 2006. Resistance of Olive Cultivars to the Defoliating Isolate of *Verticillium dahliae*. *Hortscience* 41: 1313-1316.

López Escudero, F. J., Mwanza, C., Blanco López, M. A. 2007. Reduction of *Verticillium dahliae* microsclerotia viability by dried plant residues. *Crop Protection* 26: 127-133. doi:10.1016/j.cropro.2006.04.011.

López Escudero, F. J.; del Río, C.; Caballero, J. M., Blanco López, M. A. 2007. Response of olive cultivars to stem puncture inoculation with a defoliating pathotype of *Verticillium dahliae*. *Hortscience* 42: 294-298.

López Escudero, F. J., Blanco López, M. A. 2007. The relationship between the inoculum density of *Verticillium dahliae* and the progress of *Verticillium* wilt of olive. *Plant Disease* 91: 1372-1378. <http://dx.doi.org/10.1094/PDIS-91-11-1372>

López-Escudero, F.J., Estrada, P., Mercado-Blanco, J., Valverde-Corredor, A. Blanco-López, M. A. 2008. Molecular detection of *Verticillium dahliae* in leaf petioles of olive cultivars showing different levels of resistance. *Journal of Plant Pathology* 90: 456

López Escudero, F. J., Trapero-Casas, Blanco López, M. A. 2008. An overview of the research on *Verticillium* wilt and other fungal diseases of olive in Spain. *Acta Horticulturae* 791: 593-596.

López-Escudero, F.J., Mercado-Blanco, J., Roca, J. M., Valverde-Corredor, A. and Blanco-López, M. A., 2010. Verticillium wilt of olive in the Guadalquivir Valley (southern Spain): relations with some agronomical factors and spread of *Verticillium dahliae*. *Phytopathologia Mediterranea* 49: 370-380.

Moral, J., López-Escudero, F. J., Roca, L. F., Blanco-López, M.A., Trapero, A., 2010. First report of *Verticillium* wilt of pistachio caused by *Verticillium dahliae* in Spain. *Plant Disease* 94: 382. <http://dx.doi.org/10.1094/PDIS-94-3-0382B>

López-Escudero, F. J., Mercado-Blanco, J. 2011. Verticillium wilt of olive: a case study to implement an integrated strategy to control a soil-borne pathogen. *Plant and Soil*, 344: 1-50.

Trapero, C., Roca, L.F., Alcántara-Vara, E., López-Escudero, F.J., 2011. Colonization of olive inflorescences by *Verticillium dahliae* and its significance on pathogen spread. *Journal of Phytopathology* 159: 638-640.

Trapero, C., Muñoz-Díez, C., Rallo, L. López-Escudero, F.J., Barranco, D., 2011. Screening olive progenies for resistance to *Verticillium dahliae*. *Acta Horticulturae* 924: 137-140.

García-Cabello, S., Pérez-Rodríguez, M., Blanco-López, M.A., López-Escudero, F.J., 2012. Distribution of *Verticillium dahliae* through watering systems in widely irrigated olive growing areas in Andalucía (southern Spain). *European Journal of Plant Pathology*. 133: 877- 885.

López-Escudero, F.J., Roca, J.M., Valverde-Corredor, A., Mercado-Blanco, J., 2012. Correlation between virulence and morphological characteristics of microsclerotia of *Verticillium dahliae* isolates infecting olive. *Journal of Phytopathology* 160: 431-433.

Mercado-Blanco, J., López-Escudero, F.J., 2012. Verticillium wilt of olive and its control: the heat is on. *Plant and Soil*. 355: 17-21.

Trapero, C., Muñoz-Díez, C., Rallo, L., Barranco, D., López-Escudero, F.J. 2013. Effective inoculation methods to screen for resistance to *Verticillium* wilt in olive. *Scientia Horticulturae* 162: 252– 259.

Trapero, C., Serrano, N., Arquero, O., Del Río, C., Trapero, A., and López-Escudero, F. J., 2013. Field resistance to *Verticillium* wilt in selected olive cultivars grown in two naturally infested soils. *Plant Dis.* 97:668-674.

García-Ruiz, G.M., Trapero, C., Del Río, C., López-Escudero, F.J., 2014. Evaluation of Spanish olive cultivars resistance to *Verticillium dahliae* under greenhouse conditions. *Phytoparasitica* 42 (2), 205 – 212.

García-Ruiz, G.M., Trapero, C., López-Escudero, F.J., 2014. Shortening the period for assessing the resistance of olive to verticillium wilt using continuous lighting. *Hortscience* 49: 1171-1175.

García-Ruiz, G.M., Trapero, C., Varo-Suárez, A., Trapero, A., López-Escudero F.J., 2015. Identifying resistance to *Verticillium* wilt in local Spanish olive cultivars. *Phytopathologia Mediterranea* 54:67-74.

Pérez-Rodríguez, M., Alcántara, E., Amaro-Ventura, M.C., Serrano, N., Lorite, I.J., Arquero, O., Orgaz, F., López-Escudero, F.J. 2015. The influence of irrigation frequency on the onset and development of *Verticillium* Wilt of olive. *Plant Disease* 99: 488-495.

Pérez-Rodríguez, M., Orgaz, F., Lorite, I.J., López-Escudero, F.J., 2015. Effect of the irrigation dose *Verticillium* wilt of Olive. *Scientia Horticulturae* 197: 564- 567.

Roca LF, Moral J, Trapero C, Blanco-López MA, López-Escudero F.J., 2015. Effect of Inoculum Density on *Verticillium* Wilt Incidence in Commercial Olive Orchards. *Journal of Phytopathology* 164: 61-64.

Trapero, C., Rallo, L., López-Escudero, F.J., Barranco, D., Díez, C.M., 2015. Variability and selection of *Verticillium* wilt resistant genotypes in cultivated olive and in the *Olea* genus. *Plant Pathology* 64: 890-900.

Pérez-Rodríguez, M., Serrano, N., Arquero, O., Orgaz, F., Moral, J., and López-Escudero F.J. 2016. The effect of short irrigation frequencies on the development of *Verticillium* wilt in the susceptible olive cultivar ‘Picual’ at field conditions. *Plant Disease* 100: 1880-1888.

Birem, F., Alcántara-Vara, E., López-Escudero, F.J., 2016. Water consumption and vegetative growth in resistant and susceptible olive cultivars infected by *Verticillium dahliae*. *Agricultural Sciences*, 7-230-238.

Cañizares, M.C., López-Escudero, F.J., Pérez-Artés, E., García-Pedrajas, M.D., 2017. Characterization of a Novel Single-Stranded RNA Mycovirus from the Plant Pathogen *Verticillium dahliae* Related to Invertebrate Viruses. *Archives of Virology*. 163(3):771-776.

Gómez-Lama, C., Sesmero, R., Valverde-Corredor, A., López-Escudero, F.J., Mercado-Blanco, J., 2017. A split-root system to assess biocontrol effectiveness and defense-related genetic responses in

above-ground tissues during the tripartite interaction *Verticillium dahliae*-olive- *Pseudomonas fluorescens* PICF7 in roots. *Plant and Soil*, 417: 433-452.

Varo, A., Mulero-Aparicio, A., Adem, M., Roca, L.F., Raya-Ortega, M.C., López-Escudero, F.J., Trapero, A., 2017. Screening water extracts and essential oils from Mediterranean plants against *Verticillium dahliae* in olive. *Crop Protection* 92: 168- 175.

Trapero, C., Alcántara, E., Jiménez, J., Amaro-Ventura, M.A. Romer, J. Koopmann, B., Karloosky, P., Von Tiedemann, A, Perez-Rodríguez, M., López-Escudero, F.J., 2018. Starch hydrolysis and occlusion related to wilt symptoms in olive stems of susceptible cultivars infected by *Verticillium dahliae*. *Front. Plant Sci.*, <https://doi.org/10.3389/fpls.2018.00072>

Mulero-Aparicio, A., Agustí-Brisach, C., Varo, A. López-Escudero, F.J., Trapero, A., 2019. A non-pathogenic strain of *Fusarium oxysporum* as a potential biocontrol agent against *Verticillium* wilt of olive. *Biological Control*. 139: 104045.

Mulero-Aparicio, A., Cernava, T., Turra, D., Schaefer, A., Di Pietro, A., López-Escudero, F.J., , A., Berg, G., 2019. The role of volatile organic compounds and rhizosphere competence in the mode of action of the nonpathogenic *Fusarium oxysporum* FO12 towards *Verticillium* wilt. *Frontiers in .* 10:1808.

Mulero-Aparicio, A., Trapero, A., López-Escudero, F.J., 2020. “A non-pathogenic strain of *Fusarium* and grape marc compost control *Verticillium* wilt of olive”, *Phytopathologia Mediterranea.*, vol. 59, no. 1, pp. 159-167.

Mulero-Aparicio, A., Varo, A., Agustí-Brisach, C., López-Escudero, F.J., Trapero, A., 2020. Biological control of *Verticillium* wilt of olive in the field. *Crop Protection*. 128:104993.

Ostos E., Garcia-Lopez, M.T., Porras, R., Lopez-Escudero, F.J., Trapero-Casas, A., Michaelides, T.J., Moral, J., 2020. Effect of cultivar resistance and soil management on spatial-temporal development of *Verticillium* wilt of olive: a long-term study. *Fontiers in Plant Science* 11: 584496

Valverde, P., Trapero, C., Arquero, O., Serrano, N., Barranco, D., Díez, C.M., López-Escudero F.J. 2020. Highly infested soils undermine the use of resistant olive rootstocks as a control method *verticillium* wilt. *Plant Pathology* 70, 144-153.

Valverde, P., Zucchini, M., Polverigiani, S., Lodolini, E.M., López-Escudero, F.J., Neri D. 2020. knot damages in ten olive cultivar after late-winter frost in central Italy. *Scientia Horticulturae* 266.109274.

El Desouki-Arafat, I., Aldebis-Albunnai, H.K., Vargas-Osuna, E., Trapero, A., López-Escudero, F.J., 2021. Lack of evidence for transmission of *Verticillium dahliae* by the olive bark beetle *scarabaeoides* in olive trees. *Pathogens* 10(5), 534.

Valverde, P., Trapero, C., Barranco, D., López-Escudero, F.J., Gordon, A., Muñoz-Díez, C., 2021. Assessment of Maternal Effects and Genetic Variability in Resistance to *Verticillium dahliae* in Olive Progenies. *Plants* 10, no. 8: 1534. <https://doi.org/10.3390/plants10081534>

Reghmit, A., Benzina-tihar, F., López Escudero, F. Fatma Halouane-Sahir, Zahia Oukali, Souhila Bensmail & Nourelhouda Ghozali, 2021. *Trichoderma* spp. isolates from the rhizosphere of healthy olive trees in northern Algeria and their biocontrol potentials against the olive wilt pathogen, *Verticillium dahliae*. *Org. Agr.* 11, 639–657 (2021). <https://doi.org/10.1007/s13165-021-00371-1>

Santos-Rufo, A., Pérez-Rodríguez, M., Heis-Serrano, J., Roca-Castillo, L.F., López-Escudero, F.J., 2022. Effect of cropping systems and soil physicochemical properties, on densities of *Verticillium dahliae* in olive-growing areas of the Iberian Peninsula. *J. Fungi* 2022, 8, 988. <https://doi.org/10.3390/jof8100988>.

Pérez-Rodríguez, M.; Santos-Rufo, A.; López-Escudero, F.J. 2022. High Input of Nitrogen Fertilization and Short Irrigation Frequencies Forcefully Promote the Development of *Verticillium* Wilt of Olive. *Plants*, 11, 3551. <https://doi.org/10.3390/plants11243551>

Serrano, A., Rodríguez-Jurado, D, Ramírez-Tejero, J.A, Luque, F., López-Escudero, F.J., Belaj, A., Román, B., Leon, L., 2023. Response to *Verticillium dahliae* infection in a genetically diverse set of olive cultivars. *Scientia Horticulturae* 316: <https://doi.org/10.1016/j.scienta.2023.112008>

Valverde P, Barranco D, Lopez-Escudero FJ, Díez CM and Trapero C (2023) Efficiency of breeding olives for resistance to *Verticillium* wilt. *Front. Plant Sci.* 14:1149570. doi: 10.3389/fpls.2023.1149570.

## C.2. Participation in R&D and Innovation projects

1. Proyecto: P08-AGR-03635 Epidemiología y control de enfermedades del olivo. Junta de Andalucía. 2009-2013. Investigador responsable: Antonio Trapero Casas. 297.923,68 €.

2. Proyecto: AGL2007-65766 / AGR Búsqueda de resistencia en olivo y acebuche a *Verticillium dahliae*. CICYT. 2007-2010. Investigador responsable: Francisco Javier López Escudero. 151.250,00 €.
3. Proyecto: ALG2011-30137 Control de la verticilosis del olivo mediante cultivares resistentes. Ministerio de Ciencia e Innovación. 2012-2014 (Prorroga hasta 2015). Investigador responsable: Fco. Javier Lopez Escudero. 170.000,00 €.
4. Proyecto AGL2016-76240-R: Gestión integrada de la Verticilosis del olivo mediante resistencia genética, prácticas agronómicas y control biológico. 2016-2020. Investigador principal: Francisco Javier López Escudero. 242.000,00 €.
- 5 .INNOLIVAR. Subproyecto Línea 8: Formulados pre-comerciales de microorganismos antagonistas para el control biológico de la Verticilosis del olivo Ministerio de Economía y Competitividad. Compra Pública MINECO. Francisco Javier López Escudero. (Universidad de Córdoba). 01/11/17-30/10/21. 1.492.800. Team member.
6. GEN4OLIVE Consortium Project. SFS-28-2018-2019-2020: GEN4OLIVE – “Mobilization of Olive GenRes through pre-breeding activities to face the future challenges and development of an intelligent interface to ensure a friendly information availability for end users”. Patner UCO (Project Coordinator, WP1, WP3, WP4, WP10). Workpackage 1: Definition of common protocols and consulting end-users needs. Establish links with other projects. European Commission. European Union’s Horizon 2020. Fco. Javier López Escudero (University of Cordoba), 2018-2020. 1.660.772,50 €. Team member.
7. NUTRISAN. Manejo sostenible de la nutrición y la sanidad del olivar. Consejería de Agricultura, Pesca y Desarrollo Rural, Junta de Andalucía. Grupo Operativo. Francisco Javier López Escudero. (Universidad de Córdoba). 01/05/2021 a 30/04/2023. 221.174,2 € . Team member.
8. PDC2021-121765-100 VERTOLEA Efficacy of new genotypes and biological treatments for the control of verticillium wilt of olive under field conditions. Proyecto Prueba de Concepto. Ministerio de Economía y Competitividad. Investigador principal: Fco.Javier López Escudero y Antonio Trapero Casas. 01/01/2022-31/12/2023. 115.000 €.

### **C.3. Collaborations with European research groups:**

1) Department of Oliviculture, IFAPA, CIFA Alameda del Obispo, Córdoba, Spain; 2) Plant Protection Institute, Poznan, Poland; 3) Department of Plant Pathology, Agricultural University of Athens, Athens, Greece .; 4) Department of Phytopathology. Wageningen Agricultural University. Wageningen .; 5) Department of Crop Protection, Institute of Sustainable Agriculture, Córdoba, CSIC. Spain .; 6) “Applied plant research, Sector flower bulb, nursery stock and fruits” (Praktijkonderzoek Plant & Omgeving, PPO; Wageningen Agricultural University, Lisse). 7) CSIC, IHSM 'La Mayora', Malaga (CSIC-UMA). 8) INIAV Elvas Olive Growing Station, Portugal.

### **C.4. Scholarships, grants and received awards**

- .- Predoctoral Scholarship. Superior Council of Sci. Investigations. 1/01/1994 to 12/31/1997.
- .- Help for predoctoral of the Ministry of Education and Science, Junta de Andalucía. From 07/01/1997 to 11/30/1997, in Department of Phytopathology, Wageningen Agricultural University, The Netherlands.
- .- Predoctoral Scholarship, University of Córdoba, from 04/14/1998 until 10/13/1998, Department of Agronomy, ETSIAM, University of Córdoba.
- .- Extraordinary Doctorate Award in the "Engineering and Technology" macro area. Academic year 1999/2000, Univ. Of Córdoba.
- .- Research Prize “City of Córdoba 2004” (Córdoba City Council and Spanish Society of Horticultural Sciences), for the article Evaluation of Olive Cultivars for resistance to *Verticillium dahliae*, (López-Escudero, et al., 2004. European J.Plant Pathology 110: 79-85).
- .- Award of the British Society for Plant Pathology for the best paper published in 2020 in Plant Pathology Journal ‘Highly infested soils undermine the use of resistant olive rootstocks as a control method of verticillium wilt’. Vol 70:144–153.