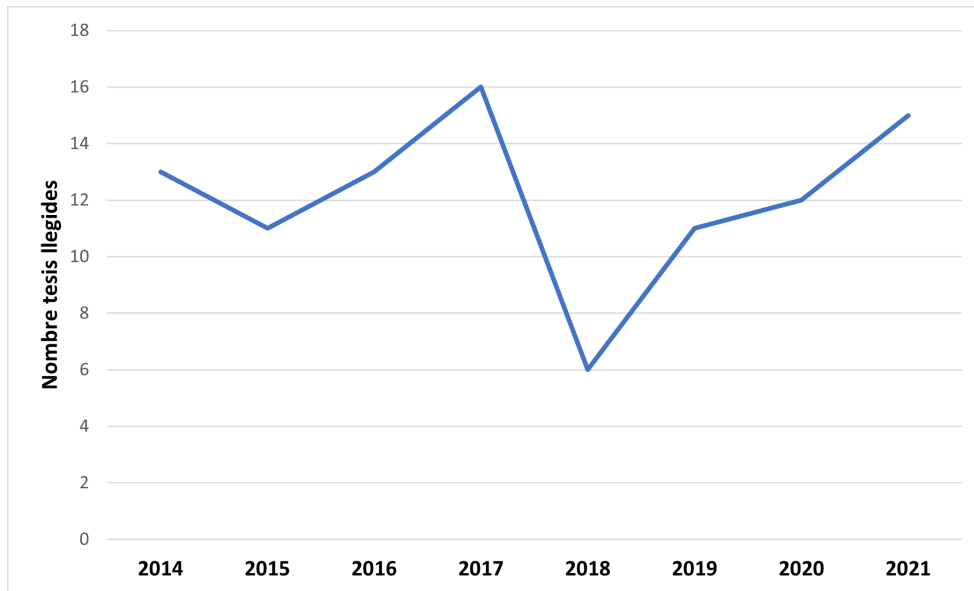




Tesis

El compromís del Departament amb la recerca es posa de manifest, també, en la formació del personal investigador mitjançant la direcció de tesis doctorals. Des de 1992 s'han dirigit o presentat al departament més d'un centenar de tesis.



Les tesis llegides en els últims anys (que es poden consultar a la web [tesisenred](https://www.tesisenred.net/handle/10803/284) [<https://www.tesisenred.net/handle/10803/284>]) han estat les següents:

Any 2014

- **Mechanistic investigations of carotenoid and ketocarotenoid biosynthesis in rice.**
- **Movement of predators in arable crop systems.**
- **Control biológico en cultivos hortícolas: Efecto de los alimentos suplementarios en depredadores y parasitoides.**
- **Enhancing biological control in apple orchards.**
- **Las atmósferas modificadas integradas con otras tecnologías como alternativas sostenibles para el control de plagas en productos alimentarios almacenados.**
- **Safety assessment and efficacy investigations of genetically engineered corn accumulating high levels of carotenoids.**
- **Molecular identification and feeding ecology of arthropod generalist predators present in Mediterranean lettuce crops.**
- **Contribución al conocimiento de la expresión fenotípica de variantes alélicas para los genes mayores Ppd-A1 y Ppd-B1 en trigo duro.**
- **Response of yield and physiological attributes to nitrogen availability and heat in maize.**
- **Rice endosperm as a production platform for third-generation HIV microbicides.**
- **The generation of biofortified and wee-resistant cereal plants through genetic engineering.**
- **Respuesta de cultivares de patata a la salinidad y potencial efecto protector del metil jasmonato frente al estrés salino.**

Any 2015



- **Caracterización de *Phytophthora infestans* y mejora genética para la resistencia en patata.**
- **Ecology, meteorology and simulation of large wildland fires.**
- **Process of colonization of the host plant by *Sesamia nonagrioides* gravid females.**
- **Tree-species diversification in Sub-Mediterranean pine forests: drivers, consequences and management options .**
- **Desarrollo y transferibilidad de los microsatélites en *Prunus* y su aplicación en estudios de variabilidad.**
- **Efectos de los sistemas de labranza de los cereales sobre los organismos perjudiciales y beneficios del suelo en el sudeste bonaerense (Argentina).**
- **Bread and durum wheat performance under a wide range of environmental conditions.**
- **Mineral nitrogen fertilization and stover management effects on maize production under Irrigated Mediterranean conditions. Simulation of yields.**
- **Grain yield determinants in a traditional and a modern wheat cultivar under a wide range of conditions in a Mediterranean region. Source-sink relationships, components, resource capture and use efficiencies.**
- **Spatio-temporal modelling of stable isotopes in tree Mediterranean species (*Quercus ilex* L. and *Pinus halepensis* Mill.): a climatic and ecophysiological view.**
- **Physiological and molecular responses to salicylic acid in potato virus X-infected tomato and maize dwarf mosaic virus-infected maize.**

Any 2016

- **Unravelling herbicide resistance in corn poppy (*Papaver rhoeas* L.) to improve integrated weed management strategies.**
- **Fallow lands as a tool for farmland biodiversity conservation.**
- **Adapting the Decision Support System CPOWeeds to optimize weed control in northern Spanish conditions.**
- **A trait-based approach to disentangle the success of alien weeds in irrigated crops.**
- **Caracterización mecánica del abeto (*Abies alba* Mill.) procedente de la cordillera pirenaica.**
- **Selección in vitro para resistencia a boro y deoxinivalenol en cebada: marcadores asociados.**
- **Towards vitamin biofortification in maize through multigene engineering.**
- **Epidemiología dels fitoplasmes dels fruiters de fruita dolça de la vinya a la Península Ibèrica: identitat genètica, hostes, vectors, cicles i control.**
- **Mechanisms controlling the selective iron and zinc biofortification of rice.**
- **Evaluación agroambiental de la fertilización y nutrición fosfatada en el cultivo de papa (*Solanum tuberosum* L.).**
- **Towards engineering of photosynthesis in rice.**
- **Physiological determinants of fertile florets in wheat: variation between elite cultivars and effects of Ppd and Eps genes.**

Any 2017

- **Assessing the effect of global change on plant functional structure, greenhouse gases, and soil functions in grasslands.**
- **Plant diversity and ecosystem services in agricultural landscapes along different spatial scales.**
- **Changes in soil biodiversity and activity along management and climatic gradients.**
- **Spatio-temporal analysis of human-caused fire occurrence patterns in Spain.**
- **High carotenoid corn: agronomic evaluation and interactions with insect pests.**
- **Improvement of the nitrogen fertilization in irrigated Mediterranean environments.**



- **Social capital in rural areas and governance of economic instruments for Non-Wood Forest Products: the case of mushrooms in Catalonia.**
- **Dissecting genetic changes on wheat adaptation, yield formation and grain quality in Mediterranean environments.**
- **A trophic chain as indicator of agricultural practice change in maize.**
- **Water use patterns and physiological interactions in Submediterranean mixed forests: methodological challenges and implications for ecohydrology.**
- **Epidemiología de la Podredumbre Parda en fruta de hueso durante los principales procesos de postcosecha en centrales frutícolas.**
- **Effects of organic and mineral nitrogen fertilization of maize in irrigated Mediterranean environments.**
- **Evaluación de alternativas para el análisis estadístico y de aspectos del diseño en ensayos de larga duración para estudios agronómicos.**
- **Detoxification and sublethal effects of neurotoxic insecticides in tortricid moths.**
- **Caracterización de la respuesta a sequía e identificación de genes asociados al uso eficiente del agua (UEA) en portainjertos *Prunus* spp.**
- **Diversidad y extensión de los mecanismos de resistencia a insecticidas en poblaciones españolas de carpocapsa (*Cydia pomonella* (L.) Lepidoptera Tortricidae) y estudio de sus posibilidades de manejo.**

Any 2018

- **Desarrollo de métodos de predicción de la incidencia de 'bitter pit' en plantaciones de manzanas 'Golden Smoothie' (*Malus domestica*, L. Borkh.).**
- **Wheat developmental processes as affected by Ppd and Eps alleles and genetic variation within elite cultivars.**
- **Forest management and abiotic parameters effect on soil fungal communities inhabiting Mediterranean forest ecosystems.**
- **Species distribution models for birds: How useful are their outcomes for conservation applications?**
- **Innovación en técnicas de plantación forestal contra la sequía y la vegetación competidora en condiciones mediterráneas.**
- **Metabolic engineering and genome editing in rice.**

Any 2019

- **Acolchados y su efecto sobre el control y la biología de la juncia (*Cyperus rotundus* L.) o Mulches and their effect on control and biology of purple nutsedge (*Cyperus rotundus* L.).**
- **Metamitrona, una nueva herramienta para optimizar el aclareo químico en manzano.**
- **Assessing soil and canopy spatial variability in fruit orchards to improve management and sampling by using auxiliary information provided by proximal and remote sensors.**
- **Forest resilience and post-disturbance dynamics: the role of species composition and structure.**
- **Wildfire risk management in southern European landscapes: Towards a longterm comprehensive strategy.**
- **Biofortification and Plant Stress: the Role of *Azospirillum brasilense* Sp7.**
- **The role of sustainable agricultural practices to mitigate greenhouse gases and to sequester soil carbon under newly irrigated Mediterranean agroecosystems.**
- **Isoprenoid and flavonoid biosynthesis and regulation in higher plants.**



- **Photoperiod response as a driver of flowering time in spring durum wheat and its influence on productivity, and environmental adaptability.**
- **New insights to durum wheat breeding in the genomics era through the exploration of a diversity panel of Mediterranean landraces.**
- **Habitat management in Mediterranean fruit orchards to foster pollinator and natural enemy communities.**

Any 2020

- **Vegetation drives greenhouse gas exchange, and carbon and nitrogen cycling in grassland ecosystems.**
- **Ground vegetation covers as a tool for weed management in vineyards.**
- **Fruit detection and 3D location using optical sensors and computer vision.**
- **Advances on spray drift assessment in 3d crops.**
- **Phenological adaptation and its genetic mechanisms in barley (*Hordeum vulgare* L.).**
- **Characterization of capacitance soil moisture sensors for the automated scheduling of drip irrigation in orchards.**
- **Towards the characterisation of adaptive syndromes of Mediterranean pines: insights through innovative tree phenotyping techniques.**
- **Impacto del manejo del suelo y del sistema de riego y su gestión sobre las emisiones de gases de efecto invernadero bajo condiciones mediterráneas.**
- **Integrated Pest Management in Maize at the Landscape Scale.**
- **Increasing the feasibility of General Surveillance of Genetically Modified maize.**
- **Towards an integrated control of peach powdery mildew (*Podosphaera pannosa*) through the application of molecular tools in epidemiological and genetic resistance studies.**
- **Understanding developmental processes responsible for adaptation- and yield- related traits in elite wheat germplasm.**

Any 2021

- **Elucidating the plant growth-promoting effects of three microorganisms on deciduous fruit tree plants using in vitro culture conditions.**
- **Effect of compounds from agricultural biodegradable plastics on the environment and on plant development.**
- **Pesticide dose adjustment in 3D crops.**
- **Procesos subyacentes a la mortalidad arbórea tras incendio.**
- **Effects of forest management, tree growth and climate on fungal communities.**
- **Molecular methods to study the movement of predatory arthropods between elements of the landscape: from topical marking to metagenomics.**
- **Unraveling biotic and environmental factors driving fungal dynamics.**
- **Sense and Sensitivity: on the biology and neuroethology of two tortricid moths.**
- **Redesigning rice for environmental sustainability, enhanced productivity and specialty uses.**
- **Plant-produced microbicides against the human immunodeficiency and severe acute respiratory symptom viruses.**
- **Hull-less and coloured-grain barley as a source of valuable healthy bioactive compounds.**
- **Bases ecológicas per a una gestió pastoral.**
- **Repoblación y gestión forestal en España desde el siglo XIX hasta la actualidad. Estudio de su desarrollo, fases históricas y resultados.**



- **Assessment of genomic and high-throughput phenotyping tools in a diversity panel of Mediterranean landraces and cultivars for wheat breeding under rainfed environments.**
- **Factores ecológicos y de gestión que afectan la producción trufera.**