

XI International Workshop on Edible Mycorrhizal Mushrooms



BOOK OF ABSTRACTS

April 22nd – 26th, 2024

Esquel, Chubut, Argentina

PRESENT AND FUTURE CHALLENGES FOR BLACK TRUFFLE CULTIVATION

Sergio Sánchez¹, Pedro Marco¹, Eva Tejedor-Calvo^{1,2}, Eva Gómez-Molina³, Lina Soler-Esteban⁴, Pedro Gabriel Martínez¹, Sergi García-Barreda¹

¹Departamento de Ciencia Vegetal, Centro de Investigación y Tecnología Agroalimentaria de Aragón (CITA), Instituto Agroalimentario de Aragón - IA2 (CITA-Universidad de Zaragoza), Zaragoza, España

²Laboratorio de Análisis del Aroma y Enología (LAAE), Departamento de Química Analítica, Facultad de Ciencias, Universidad de Zaragoza, Instituto Agroalimentario de Aragón-IA2 (Universidad de Zaragoza-CITA), Zaragoza, España

³Centro de Investigación y Experimentación en Truficultura (CIET), Diputación de Huesca, Graus, Huesca, España

⁴Centro Público Integrado de Formación Profesional, San Blas, Teruel, España

E-mail: ssanchezd@cita-aragon.es

Key words: *Tuber melanosporum*, orchard management, *Leiodes*, truffle nests, weed management

Modern cultivation of the black truffle (*Tuber melanosporum*) began in the early 1970s. In these 50 years of history, the perfect synergy between applied and basic science together with the practical experimentation of producers, has led to establishing crop standards: seedling quality, edaphoclimatic conditions of the site and adequate management both in establishment and production phases in the field. In this way, the black truffle is successfully cultivated within the species' natural distribution area in southern Europe and has spread throughout the world. However, the future sustainability of truffle production will depend on facing new challenges in the coming decades: Quality, effects of climate change and pests. Quantity of yield has been the goal for many years but today our efforts must go towards increasing quality, in a "field to fork" strategy. All pre- and post-harvest techniques and technologies must be validated and refined within this new framework. Global warming is causing a loss of yield in traditional production areas, which cannot be completely solved with irrigation strategies. It is necessary to save the water itself, as a resource, so it is possible that the actual irrigation frequencies and doses can no longer be maintained. The last threat, pests like the truffle beetle, is punishing the most successful growing areas. There is still a lot of work to do. This project has received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No 101007623.