

VII INTERNATIONAL
CHESTNUT SYMPOSIUM



Program

Lugo, Spain - June 26-29, 2023

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Useful information

WIRELESS NETWORK VISITOR ACCESS DATA



SSID: chestnut2023

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Password: 3xpC?+suDnaG

CERTIFICATE OF ATTENDANCE

Will be sent by e-mail to the e-mail addresses indicated in the registration form.

MEALS

Meals will be served in
FACULTAD DE VETERINARIA (university canteen).

Avenida Carballo Calero s/n. Pabellón central.

CP 27002 LUGO



NOTICES

Oral presentations: 15 minutes, questions included.

Posters will be presented orally for a maximum of 5 minutes, questions included.

It is strictly prohibited to take photos of any scientific material without the explicit permission from the authors. Authors are therefore asked to indicate

explicitly on their poster whether they forbid or allow photography of their work: photography encouraged | photography NOT allowed

Welcome

Dear participants of the VII Chestnut Symposium:

The Scientific Committee and the Organizing Committee welcome you to the Campus Terra of the Universidade de Santiago de Compostela.

The VII International Chestnut Symposium is being celebrated in the Main Hall of the Polytechnic High School of Engineering between 26th and 29th June 2023 (www.chestnutsymposium.com), with the assistance of researchers and other participants interested in the chestnut tree from Austria, Chile, China, Italy, France, Georgia, Hungary, Japan, Malaysia, Portugal, Slovenia, Spain, Switzerland and the USA.

The topics to be addressed will be as follows: climate change, genomics, pests and diseases, chestnut breeding, biodiversity and conservation, propagation, physiology, management, services related to forests and orchards, population genetics and landscape conservation. On June 26th, after lunch, we will visit the TRAGSA's nursery in Maceda, Ourense.

On June 29th, 2023, the Field Trip of the 7th International Chestnut Symposium is scheduled (<https://www.chestnutsymposium.com/field-trip>). The field trip will be to the 'O Courel', where the largest giant chestnut tree in the Iberian Peninsula is located ('Horta Dorden', about 22 m of perimeter). In addition, we will visit the chestnut stand at Fundación Uxío Novoneyra, and after the buildings ('sequeiros'), where chestnuts were dried, in Parada; also, in this village, we will attend to a representation of the 'pisa da castaña' (removal of the pericarp after drying). Next, we will walk through the 'Valle das Mouras', where chestnut trees are pruned at 7 m (and higher) above the ground.

We do hope you enjoy the VII Chestnut Symposium.

The Convener and the Organizing Committee

Committees



SCIENTIFIC COMMITTEE

China

Ling Qin

Beijing University of Agriculture.

France

Teresa Barreneche

National Research Institute for Agriculture, Food and the Environment (INRAE)

Cecile Robin

UMR BIOGECO, National Research Institute for Agriculture, Food and Environment (INRAE).

Italy

Claudia Mattioni

Research Institute on Terrestrial Ecosystems (IRET).

Andrea Vannini

Department for Innovation in Biological Agro-food and Forest Ecosystems (DIBAF), Università degli Studi della Toscana.

Luca Dondini.

Dipartimento di Scienze e Tecnologie Agro-Alimentari, Università di Bologna.

Gabriele Beccaro

Department of Agricultural, Forest and Food Sciences, Università degli Studi di Torino.

Japan

Norio Takada

National Agriculture and Food Research Organization. Institute of Fruit Tree and Tea Science (NARO-NIFTS).

Portugal

José Gomes Laranjo

Centro de Investigação e de Tecnologias Agro-Ambientais e Biológicas, Universidade Trás-os-Montes e Alto Douro.

Rita Costa

Instituto Nacional de Investigação Agrária e Veterinária (INIAV I. P.).

Spain

Ángela Martín

Universidad de Córdoba

Beatriz Cuenca Valera

Grupo Tragsa – SEPI

Ana María Ramos-Cabrer

Universidade de Santiago de Compostela

Santiago Pereira-Lorenzo

Universidade de Santiago de Compostela

Pedro Álvarez-Álvarez

Universidad de Oviedo

Emilio Rafael Díaz-Varela

Universidade de Santiago de Compostela

Pablo Ramil Rego

Universidade de Santiago de Compostela

Switzerland

Francois Lefort

Haute école du paysage, d'ingénierie et d'architecture de Genève (HEPIA).

Marco Conedera

Swiss Federal Research Institute WSL

USA

Giulia Marino

Department of Plant Sciences, University of California.

J Hill Craddock

Department of Biology, Geology, and Environmental Science, University of Tennessee

North Macedonia

Prof. Dr. Kiril Sotirovski

Hans Em Faculty of Forest Sciences, Landscape Architecture and Environmental Engineering. Ss. Cyril and Methodius University.

Turkey

Engin Ertan

Aydın Adnan Menderes Üniversitesi Ziraat Fakültesi

Umit Serdar

Ondokuz Mayıs Üniversitesi

ORGANIZING COMMITTEE

Santiago Pereira Lorenzo

Universidade de Santiago de Compostela

Ana María Ramos Cabrer

Universidade de Santiago de Compostela

María Belén Díaz Hernández

Universidade de Santiago de Compostela

Pedro Álvarez-Álvarez

Universidad de Oviedo

Emilio Rafael Díaz-Varela

Universidade de Santiago de Compostela

Pablo Ramil Rego

Universidade de Santiago de Compostela

Mónica África Otero Obarrio

Universidade de Santiago de Compostela

Orlando Gregorio Álvarez

PROGRAM

June 25 Sunday

19:00-20:30

Welcome cocktail reception: (ONLY REGISTERED)

La Ferretería Eventos & Co

Rúa San Froilán, 11, 27001 Lugo

www.laferreteria.info

Telf.: 982 872 711 / 616 888 585

June 26 Monday

8:00-9:00

Registration

10:00

Opening Ceremony and welcome

General Director of Forest Planning and Management. Xunta de Galicia:
Mr. José Luis Chan Rodríguez. Spain.

Major of Lugo. Concello de Lugo. **Ms. Lara Méndez López. Spain.**

Deputy Director of the Polytechnic High School of Engineering: **Dr. Emilio Carral Vilariño. Spain.**

Chairperson ISHS Division Temperate Tree Nuts (DNUT): **Dr. Giulia Marino. Department of Plant Sciences. University of California. USA.**

Vice-Chairperson ISHS Division Temperate Tree Nuts (DNUT): **Dr. Santiago Pereira-Lorenzo. Universidade de Santiago de Compostela. Spain.**

Chairperson of the ISHS Chestnut Workgroup: **Dr. José Gomes Laranjo. Universidade Trás-os-Montes e Alto Douro. Portugal.**

June 26 Monday

10:30-11:00

Coffee Break

11:00-13:30

Plenary lectures:

Chairperson: Dr. Ángela Martín. UCO. Spain.

Dr. José Gomes Laranjo. The world chestnut sector. **UTAD. Portugal.**

Dr. Andrea Vaninni. How the integration of different innovative solutions can improve the sustainability of chestnuts fruits production and quality. **UNITUS. Italy.**

13:30-15:00

Lunch

15:00-16:15

1st Session: Chestnut and climate change

Chairperson: Dr. Giovanni Gamba. UNITO. Italy.

Oral presentations:

Chestnut orchards sustainability and resilience to climate change, a multi-disciplinary approach through precision farming and breeding. **Dr. Lorenzo Rosso. UNITO. Italy.**

Methodology for phenoclimatic observations and modelling of chestnut varieties, and revitalizing chestnut growers' local knowledge in France, ROC-CHA project. **Dr. Yildiz Aumeeruddy-Thomas. CEFE-CNRS France.**

Effects of osmoprotective compounds on freezing tolerance in chestnut (*Castanea sativa* L) leaves. **Dr. Miguel Ellena. INIA. Chile.**

June 26 Monday

ClimCast. Predicting the behavior of Portuguese chestnut cultivars grafted on ColUTAD under different edafoclimatic conditions. **Dr. Laranjo. UTAD. Portugal.**

Posters:

Effects of climatic conditions on parasitism of *D. kuriphilus* by native and introduced parasitoids at the western edge of the sweet chestnut distribution. **Dr. M. F. Romay-Río. USC. Spain.**

On-farm evaluation of 471 Chinese and hybrid chestnut grower selections in the Eastern US. **Dr. Elizabeth Prenger. MU. USA.**

Estimation of carbon stock in young sweet chestnut forest and agroforest plantations. **Dr. Maria Sameiro Patrício. IPB. Portugal.**

16:15-18:00

2nd Session: Chestnut Genomics

Chairperson: Dr. Claudia Mattioni. CNR. Italy.

Oral presentations:

Functional identification of CmAP1, the homologous gene of APETALA1, in *Castanea mollissima*. **Dr. Yunhe Cheng. Beijing Academy of Forestry & Pomology Sci. China.**

Pooled whole genome sequencing method (Pool-Seq) to identify genomic regions associated to *Dryocosmus Kuriphilus* Yasumatsu resistance in European *Castanea sativa* Mill. **Dr. Isacco Beritognolo. CNR-IRET. Italy.**

Castanea crenata Ginkbilobin2-like as a resistance gene to *Phytophthora cinnamomi* infection. **Dr. Susana Serrazina. ULisboa. Portugal.**

The first european chestnut (*C. sativa*) genome. **Dr. Diego Micheletti. Fondazione Mach. Italy.**

June 26 Monday

A comparative transcriptomic analysis of low boron-efficiency and high boron-efficiency *Castanea mollissima* varieties. Beijing Academy of Agriculture and Forestry Sciences. **Dr. Guanglong Hu. China.**

Posters:

Genes activated during the defensive response of resistant chestnut genotypes against *Dryocosmus kuriphilus*. **Dr. Beatriz Cuenca. TRAGSA. Spain.**

A specific molecular diagnostic test for *Gnomoniopsis castanea* (syn. *smithogilvyi*) and *Cryphonectria parasitica*. **Dr. François LEFORT. University of Applied Sciences and Arts Western Switzerland. Switzerland.**

Genomic approaches to dissect drought tolerance in *Castanea sativa* Mill. **Adrian Perez Rial. UCO. Spain.**

Chromosome-level genome assembly of the red mutant of Chinese chestnut (*Castanea mollissima*) provides new insights into acumination of anthocyanin. **Dr. Qingzhong Liu. Shandong Institute of Pomology. China.**

Identification of a new QTL for ink disease resistance caused by *Phytophthora cinnamomi* in a chestnut interspecific hybrid progeny. **Dr. Clement Larue. INRAE, UMR Biogeco. France.**

Establishment of an efficient somatic embryo regeneration system and CmGRF7 modulates the development of somatic embryos in Chinese chestnut. **Dr. Qingqin Cao. Beijing University of Agriculture. China.**

19:00-20:00

Visit to the Roman Town (ONLY REGISTERED)

Meeting point: "Torre de A Mosqueira" (Roman Walls)

Location Street: Ronda Muralla

27001 Lugo - Lugo

Coordinates:

43° 00' 35.0" N - 7° 33' 15.0" W





June 27 Tuesday

09:00-09:30

Chairperson: Dr. Luca Dondini. UNIBO. Italy.

Invited speaker: Present and Future of Chestnut Production in Turkey. **Dr. Burak AKYÜZ** (Co-author: Dr. Ümit Serdar). Ondokuz Mayıs University, Turkey.

09:30-11:00

3rd Session: Pests and Diseases

Dr. Andrea Vannini. UNITUS. Italy.

Oral presentations:

The fungal community associated with individuals of the ambrosia beetle *Xylosandrus germanus* captured in chestnut groves. **Dr. Carmen Morales-Rodriguez. UNITUS. Italy.**

Establishment of a biological control program of the blight fungus (*Cryphonectria parasitica*) adapted to a chestnut production site in western Hungary. UNIDEB. **Dr. László Radócz.**

Past and present comparison of the incidence of chestnut blight in South Tyrol (northern Italy). **Dr. Sanja Baric. Free University of Bozen-Bolzano. Italy.**

Gall wasp susceptibility of chestnut cultivars in an organic South Carolina orchard. **Dr. Gregory L. Reighard. Clemson University. USA.**

Chestnut mosaic virus and the interference with plant canopy and production. **Dr. Sergio Murolo. UNIVPM. Italy.**

Determination of the susceptibility levels to root rot disease of some rootstock candidates in chestnut. **Dr. Burak AKYÜZ. Ondokuz Mayıs University. Turkey.**

June 27 Tuesday

11:00-11:30

Coffee Break

11:30-12:25

3rd Session: Pests and Diseases (continued)

Chairperson: Dr. Francois Lefort. HEPIA. Switzerland.

Posters:

Anthropogenic and landscape features are associated with ink disease impact in Central Italy. **Dr. Andrea Vannini. UNITUS. Italy.**

Hybrid de novo genome assembly and comparative genomics of three different isolates of *Gnomoniopsis castaneae*. **Dr. Andrea Vannini. UNITUS. Italy.**

Preventive biological protection method on young chestnut seedlings for controlling the chestnut blight disease. **Dr. László Radócz. UNIDEB. Hungary.**

Presence of *Gnomoniopsis castaneae* in chestnut areas in Spain and possible association with *Dryocosmus kuriphilus* infestation. **Dr. Andrea Vannini. UNITUS. Italy.**

Presence of *Gnomoniopsis castanea* (syn. *smithogilvyi*) in chestnuts, rootstocks and grafts of chestnut varieties in Ticino. **Dr. François Lefort. University of Applied Sciences and Arts Western Switzerland. Switzerland.**

Protection from ink disease of *Castanea sativa* orchards: first steps of INKAS Project the rural development program for Marche region (Central-Eastern Italy). **Dr. Sergio Murolo. UNIVPM. Italy.**

Wasps and weevils in Michigan chestnut orchards: biology, distribution, and management. **Dr. Maximilian Ferguson. MSU. USA.**

June 27 Tuesday

Identification of two pathogenic fungi, *Neofusicoccum parvum* and *Neopestalotiopsis* sp., on European chestnut (*Castanea sativa* Mill.). **Dr. Marta Ciordia. SERIDA. Spain.**

Pathogenicity of *Gnomoniopsis smithogilvyi* on Four Varieties of Sweet Chestnut from Galicia (Spain). **Dr. María Fraga. Fauna Útil. Spain.**

Evaluation of the biological control of *Cryphonectria parasitica* in four orchards of sweet chestnut in Galicia (Spain). **Dr. Olga Aguín Casal. Estación Fitopatológica Areeiro. Spain.**

First experiences with chestnut brown rot (*Gnomoniopsis castaneae*) in Austria. **Ulrike Persen. Institute of Plant Health. Austria.**

12:25-14:05

4th Session: Biodiversity and conservation

Chairperson: Dr. Ángela Martín. UCO. Spain.

Oral presentations:

Genetic heritage of sweet chestnut genotypes in Montseny Natural Park, Catalonia. **Dr. Joan Abel Bachs. IRTA. Spain.**

Biocultural diversity of *Castanea sativa* (Mill.) across Eurasia. **Dr. Paola Pollegioni. CNR. Italy.**

Castanea sativa ancient trees across Europe: source of genetic diversity. **Dr. Claudia Mattioni. CNR. Italy.**

Location and differentiation of chestnut tree (*Castanea sativa* Mill.) individuals grafted with traditional cultivars using spatio-temporal analysis of remote-sensed imagery, dendro-chronological analysis, and SSR genotyping. **Dr. Emilio Díaz-Varela. USC. Spain.**

June 27 Tuesday

Monitoring and protection of local genetic resources of sweet chestnut (*Castanea sativa* Mill.) by integrated analysis of cultivated and wild populations: case study of Umbria and Lombardy regions (Italy). **Dr. Isacco Beritognolo. CNR. Italy.**

Posters:

Principal Component Analysis and phytochemical fingerprinting as tools for genotype traceability in *Castanea* spp. fruits. **Dr. Gabriele Loris Beccaro. UNITO. Italy.**

Conservation of European chestnut germplasm using biotechnological tools. **Dr. Elena Corredoira. CSIC. Spain.**

Genetic diversity of the Italian chestnut accessions. **Dr. Luisa Palmieri. Fondazione Mach. Italy.**

Genetic diversity of chestnut trees of Martainha variety assayed by iPBS and ISSR markers. **Dr. José Gomes Laranjo. UTAD. Portugal.**

Morphological characterization of characters associated with chestnut fruit from Martainha variety. **Dr. José Gomes Laranjo. UTAD. Portugal.**

14:10-15:30

Lunch

15:30-20:00

Short trip to Maceda's Nursery of TRAGSA. **Dr. Beatriz Cuenca-Valera.**

Visit to Ourense (those who already know the Nursery). **(ONLY REGISTERED)**

June 28 Wendsday

9:00-10:25

5th Session: Chestnut propagation

Chairperson: Dr. Beatriz Cuenca Valera. TRAGSA. Spain.

Oral presentations:

Study of the biochemical and physiological dynamics occurring during grafting: a further step towards the prediction of graft incompatibility in chestnut.

Dr. Giovanni Gamba. UNITO. Italy.

Protocols for the micropropagation of several chestnut varieties. **Dr. Juan Fernández-Lorenzo. USC. Spain.**

Development of a regeneration protocol for chestnut Italian cultivar 'Marrone di Zocca'. **Dr. Marco Defrancesco. Italy.**

In Vitro Propagation of *Castanea sativa* Mill. **Dr. Hashimah Elias. Universiti Malaysia Sarawak. Malaysia.**

Posters:

The new EU chestnut nursery certification: processes, opportunities and critical issues for the sector. **Dr. Lorenzo Rosso. UNITO. Italy.**

Efficient in vitro shoot proliferation of 'Marrone' accessions (*Castanea sativa* Mill.). **Dr. Sara Alessandri. UNIBO. Italy.**

Cryopreservation of Chestnut Zygotic Embryos by Dehydration 'One-Step Freezing'. **Dr. Tamari Kutchava. Tbilisi State University. Georgia.**

In vitro micrografting of selected Galician chestnut cultivars on chestnut hybrids (*Castanea x coudercii*). **Dr. Juan Fernández-Lorenzo. USC. Spain.**

In vitro establishment of chestnut clones of Martainha variety. **Dr. José Gomes Laranjo. UTAD. Portugal.**

June 28 Wednesday

10:25-10:55

6th Session: Population Genetics and Landscape conservation

Chairperson: Dr. Jose Gomes Laranjo. UTAD. Portugal.

Oral presentations:

Evaluation of introgression of Asian germplasm into natural populations of *Castanea sativa* Mill. from southern Europe. **Dr. Elena Cubera. UNEX. Spain.**

Ascertainment of ancestry and parentage analysis of the parents and progeny of elite grower selections in the Eastern United States. **Dr. Jeanne Romero-Severson. University of Notre Dame. USA.**

10:55-11:25

Coffee Break

11:25-11:55

6th Session: Population Genetics and Landscape conservation (continued)

Best adapted chestnut trees to new environmental scenario for timber production at the Montseny Natural Park. **Dr. Rut Sanchez Bragado. CTFC. Spain.**

Posters:

Contribution of ancient rootstocks to the genetic diversity of chestnut orchards in southern Spain. **Dr. Angela Martín. UCO. Spain.**

Genetic diversity of chestnut to water stress and tolerance to *Phytophthora cinnamomi* based on EST-SSR markers. **Dr. Elena Cubera. UNEX. Spain.**

Distribution of sweet chestnut (*Castanea sativa* Mill.) in the Oltenia region, Romania. **Dr. Sina Cosmulescu. University of Craiova. Romania.**

June 28 Wednesday

11:55-13:15

7th Session: Chestnut Breeding

Dr. Luca Dondini. UNIBO. Italy.

Oral presentations:

Backcross, transgenic, or both? Using logic models and data to decide on effective paths to evolutionary rescue of American chestnut. **Dr. Jared Westbrook. The American Chestnut Foundation. USA.**

Chestnut trees (*Castanea sativa* Mill.) for climate change. **Dr. Alejandro Solla. UNEX. Spain.**

Performance of ten elite Chinese Chestnut Cultivars in Replicated Trial over 16 years in Central Missouri. **Dr. Nicholas Meier. Missouri University. USA.**

Conservation of the Ozark chinquapin by applying biotechnology developed for American chestnut. **Dr. Patricia Fernandes. SUNY-ESF. USA.**

Application of CRISPR/cas9 technology to chestnut breeding. **Dr. Roberto Botta. UNITO. Italy.**

Posters:

Selection of new chestnut rootstocks. **Dr. Fabrice Lheureux. France.**

13:15-14:45

Lunch

June 28 Wednesday

14:45-16:45

8th Session: Management or physiology

Chairperson: Dr. Burak Akyuz. OMU. Turkey.

Oral presentations:

Microbial biostimulants tend to reduce chestnut trees mortality caused by chestnut rot and canker in nursery. **Dr. François Lefort. University of Applied Sciences and Arts Western Switzerland. Switzerland.**

Castanea sativa burr growth in its final stages. **Dr. Giulio Demetrio Perulli. UNIBO. Italy.**

Evaluation of commercial products for the control of *Gnomoniopsis smithogilvyi* and *Cydia splendana* in chestnut trees. **Dr. Jose Laranjo. UTAD. Portugal.**

Why are male-sterile chestnut trees more productive than male-fertile trees? **Dr. Clement Larue. INRAE, UMR Biogeco. France.**

The phenolic profile of different chestnut (*Castanea sativa* Mill.) accessions at different locations in Slovenia. **Dr. Aljaz Medic. University of Ljubljana. Slovenia.**

Impact of SiK in promotion of chestnut tolerance against *Cryphonetria parasitica*. **Dr. Jose Gomes Laranjo. UTAD. Portugal.**

European chestnut in Slovakia: overview of health condition and its cultivation for the future in the term of climate change. **Ladislav Bakay. Slovak Academy of Sciences. Slovakia.**

Artificial Neural Networks unravel the key factors influencing in vitro solid culture of *Boletus reticulatus* mycelium for chestnut mycorrhization. **Dr. Pedro Pablo Gallego. UVIGO.**

June 28 Wednesday

16:45-17:50

8th Session: Management or physiology

Chairperson: Dr. Gabriele Beccaro. UNITO. Italy.

Posters:

The effects of chestnut apical buds position on vegetative and reproductive annual growth. **Dr. Giulio Demetrio Perulli. UNIBO. Italy.**

Chestnut leaf and burr composting techniques as alternatives to burning. **Dr. Gabriele Loris Beccaro. UNITO. Italy.**

Effects of thermohidroterapy against *Dryocosmus kuriphilus* in dormant rooted *Castanea sativa* plants. **Dr. Marta Ciordia. SERIDA. Spain.**

Chestnuts are (entirely) insect-pollinated? **Dr. Clement Larue. INRAE, UMR Biogeco. France.**

Developmental anatomy and histochemistry reveal the neo-ontogenesis of the leaf tissues of *Castanea mollissima* (Fagaceae) towards the galls of Chestnut. **Dr. Cancan Zhu. Institute of Botany, Jiangsu Province and Chinese Academy of Sciences. China.**

Impact of the cooking process and chemical and enzymatic methods on the sensory characteristics of chestnut and, in consumer approval. **Dr. Teresa Maria Pinto. UTAD. Portugal.**

Silicon fertilization in chestnut plants: an efficient solution to ink disease. **Dr. Laranjo. UTAD. Portugal.**

Comparative growth and yield performance of sweet chestnut in high-forest and coppice systems in young plantations. **Dr. Maria Sameiro Patrício. IPB. Portugal.**

June 28 Wednesday

Metagenomic characterization of soil bacterial communities in young chestnut orchards in northern Portugal. **Ermelinda Lopes Pereira. IPB. Portugal.**

Late season irrigation improves chestnut physiology and nut quality. **Dr. Giulio Demetrio Perulli. UNIBO. Italy**

Application of commercial disinfectants to improve chestnut fruit sanitation. **Ermelinda Lopes Pereira. IPB. Portugal.**

Stem volume ratio equations to variable merchantable limits for sweet chestnut in Portugal. **Dr. Maria Sameiro Patrício. IPB. Portugal.**

Enhancing in vitro solid culture of *B. edulis* and *B. reticulatus* through elicitation with indoleacetic acid and oxalic acid. **Dr. Pedro Pablo Gallego. UVIGO.**

17:50-18:30

ISHS Young Minds Award:

Election of the next Convener for the VIII Chestnut Symposium.

20:30

Gala dinner

(ONLY REGISTERED)

BRASAS BLANCAS RESTAURANT

Rúa Marina Española, 29, 27002 Lugo

+34 982 83 10 80

www.chestnutsymposium.com/gala-dinner

www.brasasbrancas.es

June 29 Thursday

Field trips (check on the website):

(ONLY REGISTERED)

Route to the giant chestnut trees, including traditional chestnut orchards (O Caurel).

www.chestnutsymposium.com/fieldtrip





VII INTERNATIONAL
CHESTNUT SYMPOSIUM

COLLABORATORS



Fonte do Milagro



Ribeira Sacra - Courel
Grupo de Desenvolvemento Rural



CONCELLO DE
FOLGOSO DO COUREL