

Report on iNET Scoping Seminar

Wild nuts & berries iNet

Date: June 14/15, 2018

Venue: *Observatório do Sobreiro e da Cortiça*, APFC, Coruche, Portugal (<https://goo.gl/maps/3bhLWbHRJ7r>)

2nd day: Field trip to *PineFlavour* processing facilities, Grândola (<https://goo.gl/maps/sDLBs5usrTH2>), and grafted stone pine, mixed stone pine, cork oak and strawberry tree plantations, Herdade do Azinhal, Freguesia Azinhal (<https://goo.gl/maps/vaxMX8stpdC2>).

pax by stakeholder type: 20 (gender balance 11:9)

Forest owners & associations	8
Public forest administrations	1
Processing industry & associations	3
Public agencies	2
Research/Technological Centres	6

INCREDIBLE staff involved: Organisation: S. Mutke (INIA); N. Calado, C. Silva, C. Vila Verde (UNAC). Attendance: A. Correia, A. Tomás (ISA); L. Fernández (CESEFOR); H. Baudriller-Cacaud (CRPF).

Summary output

Participants of the scoping seminar were mostly local Portuguese stakeholders, besides participants from Spanish and French public bodies. The failure to attract value chain actors from foreign enterprises was possibly due to opportunity costs of spending two working days abroad. Two relevant pine cone processors from Spain that were going to assist did miss the meeting only short-term due to unforeseen issues at their enterprises.

Main outcomes of the meeting marked by the participants were issues such as the advantage of an international network that allows for knowing the *who-is-who* in the sector, for an increased exchange of knowledge and ideas, including improved market information, or even for building commercial relationships. A fluid linkage between research results and the sector was considered essential for innovation. Optimistic views on advances along supply chains couldn't deviate the main attention from most serious problems the sectors of chestnuts and Mediterranean pine nuts are currently facing:

- Severe damages due to exotic pests and diseases.
- Yield losses due to increasing droughts.
- Persisting thefts and black market in form of a complete parallel, tax and guarantee-free supply chain.
- Lack of applied quality standards and traceability, due for food since European Regulation (EC) 178/2002.

Key consequences for further action in the Wild nuts & berries iNet, namely inter-regional and cross-cutting seminars, open innovation challenges and other dissemination activities, are the marks put on the main challenges that are jeopardising the sustainable and profitable production of forest-collected gourmet nuts, namely chestnuts and Mediterranean pine nuts: first of all, there is a need to recover a sustained and higher production, by deployment of improved, adapted genetic materials, the spread of optimised management techniques, and the development of



integrated pests management systems. But also concerted actions are required against thefts and persisting black markets, that should be complemented with developing protocols, standards or even guarantee labels for traceability, processing standards and product quality, The work can start with an target as elemental as succeeding in arising consumers' (and public authorities') awareness about the differences between genuine Mediterranean pine nuts from *Pinus pinea* and pine seeds from completely different, Asiatic pine species (*P. koraiensis*, *P. sibirica* etc.) labelled currently indistinctly in retail in spite of their huge differences.

1. Improved Narrative and understanding of the value chains and ecosystems

1.1 Description of better characterised actors and fluxes in the value chain

The insights gained during the scoping seminar for chestnut and pine nut did underline that traditional forest owners or chestnut growers, seldom with full-time dedication, should be clearly differed from a new type of farmers or landowners who do apply an agronomic approach on new plantations, with active management and tending practices. Some issues listed by participants to be better reflected in the new value chain ecosystem were:

- black market (a complete parallel, hidden supply chain, though often entangled with flows of the formal one) implying illegal harvesting or theft, as well as tax fraud;
- integration/interaction of agents in the value chain.
- lack of control/effective implementation of regulation and traceability along the supply chain;
- different national regulation of standards, but a generalised trans-border trade;
- market competition/confusion and lack of differentiation e.g. from Turkish products, and even other, different species from China or Pakistan;
- increasing relevance of new, more productive plantations;
- new/innovative equipment or mechanical harvesting and first transformation;
- effects of climate change;

Some of these aspects are quantitative trends in time, or purely conceptual, and cannot be reflected properly in the value chain scheme, though the persistence of informal actors along the supply chain, activities and flows outside the regulatory framework set up by public authorities has been added. As example, the updated figure for Mediterranean pine nuts is displayed (Fig. 1).

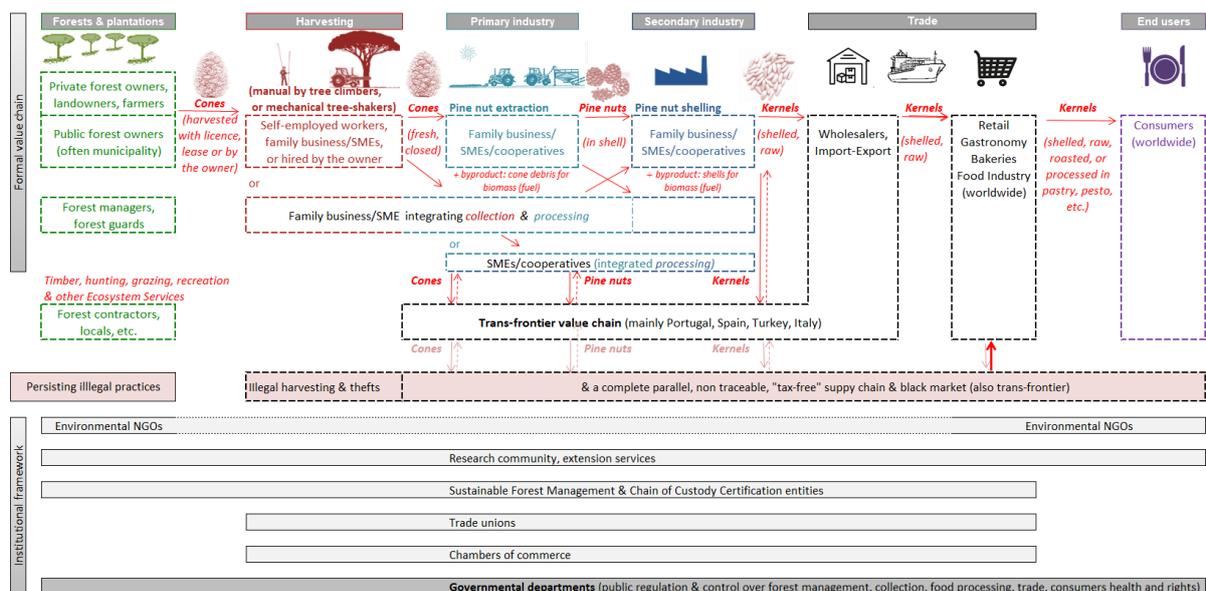


Figure 1. Improved Mediterranean pine nut value chain ecosystem mapping.

1.2 Description of new/better characterised elements of the ecosystem

The way the value chain actors interact with each other are mainly commercial transactions: harvest rights under fees or by auction, or products paid by the buyer, etc. Hence these monetary backflows implied has not been included in the figure.

Once again, in most rural production areas, the [lack of] entrepreneurial culture of local actors and the persistence of traditional figures such as informal intermediate buyers and handlers has favoured informal transaction beyond legal and fiscal control, affecting the whole supply chain and even the wider NWFP ecosystem, because it does effectively hinder precise knowledge of actual annual and regional production and productivity, as well as commercial transparency, any kind of traceability or certification scheme, and consequently the due diligence with clients and authorities.

1.3 Updated Narrative

Trending topics during the meeting were: Production: harvesting, thefts; Industry: quality and traceability; Markets: labels & black market (along completely parallel, uncontrolled supply chains), lack of consumers' awareness of product identification and differentiation.

There are not so much changes in relation to the previous version, rather a prioritisation and weighting of its different topics and issues. Maybe, a mayor gap of knowledge has been pinpointed: although information and knowledge are available, they are not handled by all actors and stakeholders, because of: 1) inefficient knowledge transfer and extension channels, 2) lack of innovation-driven entrepreneurship, and 3) poor crossfertilisation between sectors and even among regional sectors for the same product, seen often as competitor rather than colleagues that are sharing the same exterior threads and challenges.

The most urgent issue from the scoping seminar were:

Pests, diseases and thefts are jeopardising the sustainable and profitable production of forest-collected gourmet nuts, namely chestnuts and Mediterranean pine nuts. Without supply, there is no value chain at all.

2. Priority themes, issues, knowledge gaps and innovation opportunities

2.1 Priority themes to focus INCREDIBLE actions

The following priority themes emerged from the session "Scoping the iNet". Each theme is listed here with title, its nature (technological, social...) and a brief description. These themes will influence the design on interregional and cross-cutting seminars within the next years of INCREDible

For the **Chestnut value chain**, identified themes are:

- **Processing quality:** High quality standards are considered a challenge for the whole value chain, implying all actors. In 2020, there should be operative protocols developed and implemented by all industries. The steps to achieve this goal are the collection of knowledge from research and practice for the setup of good practices guidelines. Cooperation with related Operational Groups is one of the most obvious issues. INCREDible as network can contribute with science-practices activities and open innovation challenge.

- **New chestnut products:** This is a market issue that aims to “put chestnut as a common item in the consumers’ basket”. Some ideas for 2020 are product lines for chestnut beer or chestnut flour. The main challenge, standardised supply apart, is a good marketing and consumers awareness rise about health, environment and cultural benefits of chestnut consumption. Here we have a clear example how INCREdible might favour new market ideas as open innovation challenge.

In case of **Mediterranean pine nuts**, priority topics are:

- **Knowledge gaps:** the first, quite unspecific claim of the sectorial agents is clearly related to the novelty of Mediterranean stone pine as tree crop. Few decades ago, cones were only collected opportunistically from multifunctional pine forests, and research on this species has been centred on botany, ecology and silviculture. Only recently the booming demand for pine kernel and the crisis of alternative tree species such as *Pinus pinaster* have reoriented land owners preference, and optimised management and tending schemes are still lacking (planting density, tilling, pruning, fertilisation, irrigation, integrated pest management, mechanical harvest optimization). In the timeframe till 2020, existing knowledge should be collected, integrated and translated into Management guidelines and Good practices guidelines. Cooperating also with recently set up Operational Groups, INCREdible can face this generic challenge making use of most of its tools.
- **Organic food labels:** Being a market issue by nature, the labelling of certification schemes for organic food production, and/or, less prioritized, as sustainably managed forest product, such as [FairWild](#) standards, are seen as a chance for rising consumers’ awareness about the superior quality of both European chestnuts and Mediterranean pine nut kernels. Discussion took into account that possible development of chemical control for extremely serious pests might enter in conflict with Organic Food Labelling. But for 2020, the proposal oriented towards promotion campaigns in Europe for a better marketing of certification brands and labels. INCREdible might offer cross cutting seminars on this topic.

For both chestnut and pine nut sectors, finally, the paramount threads are

- **Pest and diseases:** the main nature of this challenge is the knowledge gap how to solve severe yield losses especially due to new exotic pests (chestnut gall wasp, conifer seed bug). But there are also an organizational gaps how to apply at operational scale available solutions such as biological control by parasitoids, and in some regions a lack of politic support to these actions. Given that the threads are similar for both value chains, for 2020 a coordinated common approach/strategy should be looked for, not only for research, knowledge and innovation exchange within and among existing networks (European Inter-professional Chestnut Commission EUROCHESTNUT, FAO/CIHEAM Research Network on Nuts, etc.) and in cooperation with Operational Groups, but also for searching more efficient influence on and support from national, European and regional authorities. INCREdible is called to play a role as platform and meeting point to channel these initiatives by all tools the network does offer.

Also researches working on **strawberry tree fruits** participated in the meeting. *Arbutus unedo* is a still mostly wild-collected berry with initial steps of clonal selection towards domestication at least in Portugal⁴, with quite local value chains for liquors or jam. The WN&B iNet attempts to attract stakeholders from *Arbutus* value chains in Portugal and France for crossfertilisation.

⁴ Gomes F, Botelho G, Santos S, Godinho D, Melo F, Nazaré N, Frias A, Ressureição S, 2016. O medronheiro: o material vegetal e a fertilização à instalação, o efeito na produção e qualidade de fruto. V

2.2 Identified Knowledge gaps to be addressed in practice abstracts

Knowledge gaps have emerged across all discussions, either lack of knowledge or lack of *shared* knowledge (e.g. research results that have not reached other stakeholders, different views/opinions among stakeholders, etc.).

- There is a general agreement on a general need for more research and knowledge transfer on wild collected forest nut & fruit species, excluding agronomic species.
- Chestnut: Biology of, and effective integrated pest management practices for the chestnut gall wasp, *Dryocosmus kuriphilus*.
- Pine nuts: Biology of, and effective integrated pest management practices for the Western conifer seed bug, *Leptoglossus occidentalis*, and other cone pests (*Dioryctria sp.*, *Pissodes validirostris*),
- Ongoing climate changes and scenarios for forest ecosystems and production.

2.3 Causality statements and beliefs expressed by participants

The following statements were made by stakeholders:

- “Increasing drought due to climate change will require to densify open Iberian oak and pine woodlands with currently less than 50 trees per hectare (*montado*, *dehesa*) to more than 120 trees per hectare because pasture out of canopy shadow will be not persistent anymore”.
- “After suffering two wildfires in seven years, I decided to cease industrial *Eucalyptus* plantation on that slope and to install a mixed stand of stone pine, cork oak and strawberry tree, all of them species with added values from Non Wood Forest Products”.

2.4 Themes for potential open innovation challenges

- Definition & implementation of standards, protocols, and good practices guidelines, for improved processing and product quality.
- Protocols, and good practices guidelines, for precocious pine cone opening and processing by artificial heat, preserving quality similar to the traditional sun-dried product.
- New chestnut-based product, namely chestnut beer, chestnut flour – goal “Chestnut as an item within the standard consumer’s basket”.

3. Better understanding of the policy framework

3.1 Areas for policy innovation

Wild nut & berries iNet members expressed the need for regulation, more specifically to improve/reorganize/harmonise/enforce existing regulation schemes for the due legal diligence that guarantees standards, register and traceability of the products from harvesting to final retail, in order to hinder thefts, black market, and failures on product quality.

3.2 Examples of good or dysfunctional regulation

As complement to the above discussion, the best examples of EU, national or regional regulation that has been highlighted during the different sessions of the Scoping Seminar.

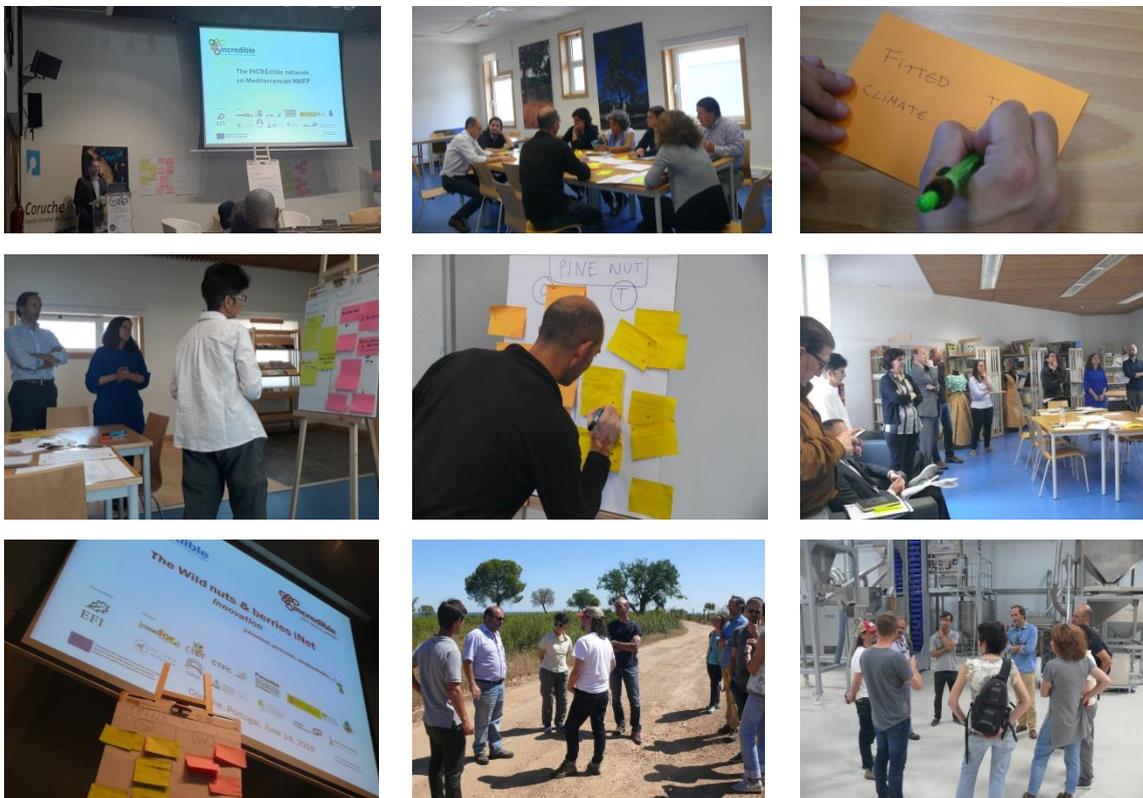
Paulo Gonçalves from the Portuguese Chestnut Association [RefCast](#) related the success story of their association since 2008, getting early involved in the setup of a Chestnut DOP (protected denomination of origin), than in a project about value chain development, and currently in

Operative Groups, and finally its integration as member of the European Chestnut Network [Eurochestnut](#), together with partners like the Spanish National Chestnut Network or the French National Syndicate of Chestnut Growers.

In case of Mediterranean stone pine, in Spain the normative regulation of cone yield, transport, processing and trade is competence of seventeen different autonomous regional governments, resulting in great dissimilarity in implementation and lacking any harmonisation, from an exhaustive specific register and control of value chain actors and flows e.g. in Castilla y León, to the absence of specific legislation, norms or tracing by public authorities in other regions even with relevant production.

4. Communication materials

4.1 Photo gallery



ANNEXES

Annex I List of participants (signed)

Annex II Evaluation forms

Annex III Final programme

Annex IV Picts of working materials