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AGRICULTURE & INNOVATION



EIP-AGRI Focus Group

Plant-based medicinal and cosmetic products

MINI PAPER 5. Wild collection: recommendations to avoid over exploitation and to promote sustainable use of wild resources

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1. Introduction

The collection of wild plants and parts thereof, growing naturally in natural areas, forests and agricultural areas has been a traditional human activity for millennia and remains still alive and popular in most of European countries. Collected raw herbal materials are used for private purposes or for commercial use in different sectors especially: food, pharmaceuticals and cosmetics.

2. Market characteristics of collected wild plants

Market structure

We can easily observe a tendency for increasing trade of wild collected herbs between EU countries and an increased amount of imported raw herbal materials from non EU countries. The companies engaging in wild plant collection in Europe have different degrees of specialization and can range from large-scale companies exclusively dedicated to wild plant gathering to farmers who engage in wild plant gathering as complementary activity to their farm businesses.

Similarly, the current collection of wild plants is conducted by people with different degrees of specialization. There are on the one side professional collectors gaining a major part of their yearly income from wild plant collecting, whereas on the other side, non professional ones (such as retired people, people on parental leave or unemployed people) which are looking for complementing their income, when needed.



Elderberry flowers, Poland, R.Ksieżopolski



Birch-tree leaves, Sweden, A.de Paoli

Demand

We have no direct data depicting market growth in the segment of wild collected plants, but we can observe an increasing interest in local and traditional products made of wild collected plants (e.g. jams, sauces, syrups, herbal teas, cosmetics) as well as growing attention to different forms of herbal dietary supplements made of wild plants. We can presume that there is an increasing demand of consumers in different sectors concerning herbal products and herbal raw materials among them for wild collected plants also.

The growing demand is potentially an opportunity for local enterprises, social community enterprises and small producers also, who can enter the market or diversify their existing offers in a sustainable production model of cooperation with local collectors who do care for the environment and biodiversity on their local, regional level.

Offer

We share the opinion that there is still enough resources and high potential for sustainable collection of wild herbs to address – at least partially – the growing demand in many countries in Europe.

There is also an observable tendency to focus on the most profitable species leading to an increasing import of herbal raw materials from outside the EU.

However these circumstances also create opportunities for developing local direct sale by farmers or other small producers based on the local wild collected plants.

3. Sustainable collection of wild plants

Resource assessment of collected wild plants

From a practical point of view, it is the interest of collectors and entrepreneurs organizing wild collection to evaluate the best places where collected species are available and preserving these places for long-term collection ensuring the protection of biodiversity. We would like to outline that resource assessments are thus key for wild collection and collection activities should thus be normally based on such assessments.



Lavandula pedunculata flowers, Spain, Jesús Fernández



Dog rose's fruits, Czech Republic, G. Olsanska

Access to land for collectors

In many countries collectors have to obtain permission from the public or private land owners for commercial wild plant collection. One exception is the All Man's Right in Scandinavian countries, which guarantees free access to wild collection of wild plants, also for commercial purposes. These traditional regulations are based on individual responsibility to protect the landscape.

For collectors, it might be sometimes difficult to receive permits for suitable collection areas. State authorities in many regions are reluctant in providing the necessary documentation and authorisations for allowing organic certified wild plant gathering on public land.

Working conditions and availability of workforce



Collectors during work, Poland, R. Książopolski



Wild plants collection, Spain, Jesús Fernández

Wild plant collection is very labour-intensive and the availability of workforce is key for the development and continuity of the sector. Especially large-scale wild plant collection thereby relies on the availability of people who are willing to harvest the intended plant material.

In contrast to relatively poor working conditions for large-scale gathering, there are many good small-scale examples of projects organising wild plants collection for supporting rural development (e.g. in France: <http://www.sicarappam.com/> or in Spain: www.aromasdelencinar.com). These local projects support rural development and may also create the conditions for collaboration with bigger producers hiring well trained personnel.

There is no official recognition of the profession of “wild herb collector” in Europe. It has only the functional meaning of a person who is collecting wild plants but according to Good Agricultural and Collection Practices (GACP) (respected by most of entrepreneurs), it should be a well-trained person both in recognition of species and rules of sustainable collection. The Gruntvig Plant Wild Project (<https://plantwild.wordpress.com/>) is an interesting example of promoting the MAP’s collection training.

Regulation of collection practices

The wild plant collection practices might have high impact on the sustainable growth of wild plant species. There are guidelines and good practices of wild collection which are highly recommended to facilitate faster regeneration of habitats from where wild species were collected (e.g. burying sprouts of main roots of *Gentiana lutea*) or to maintain local biodiversity of sustainably exploited habitats (e.g. fostering natural populations, preserving the sufficient percentage of collected plants in the habitats and other good practices of sustainable collection).

These guidelines and good practices are useful for all the actors and include: International Standard for the Sustainable Wild Collection of Medicinal and Aromatic Plants (ISCC-MAP), WHO Guidelines on Good Agricultural and Collection Practices (GACP) for MAP’s, Guidelines for Good Agricultural and Wild Collection Practice (GACP) of Medicinal and Aromatic Plants – EUROPAM, Guideline on good agricultural and collection practice (GACP) for starting materials of herbal origin – EMA.

Sustainability certifications

There is a growing consumer’s awareness that it should be useful to differentiate food products on the market according to sustainability criteria. This trend also reached the sector of wild plant collection and several certification schemes developed over recent years.

The most widely applied sustainability standard is the organic one. The collection of wild plants and parts thereof, growing naturally in natural areas, forests and agricultural areas can be certified as organic products following EC regulation 834/2007 and EC regulation 889/2008.

Whereas the organic standard focuses on environmental sustainability exclusively, the FairWild standard also incorporates social aspects. These aspects can demonstrate commitment of entrepreneurs or organisers of wild collection to sustainable collection, social responsibility and Fair Trade principles.

Other standards existing on the European market include the PEFC certification scheme (common in the forestry sector and it has a line for certification of non-timber forest products and forest foods), the Natura 2000 and others.

Quality assessments and traceability



Producer's laboratory equipment, Poland, R.Księżopolski

Fresh herbs in selling point, Poland, R. Księżopolski

According to EUROPAM-GACP and EMA-GACP guidelines all processes and procedures that could affect the quality of the product established from wild collected plants must be documented to provide a complete traceability between wild collection data and the raw herbal materials for processing.

According to guidelines, copies of all documents have to be kept for a minimum 7 years from the harvest date and batches of medicinal plant materials should be unambiguously and unmistakably traceable to their sources. Therefore appropriate labelling and batch assignment should take place as early as possible.

Protection of endangered and overexploited species

According to the national law in different EU countries collection of endangered species is prohibited by law and permitted for scientific use under special authorisation. Lists of nationally protected species is accessible online and remains well known for professionals for whom it may concern.

Moreover, there are the national lists of threatened flora, partly protected and in these lists, there are some medicinal species listed as "vulnerable" which populations are monitored and partly protected. Other species may be protected in specific natural areas. Collection of "vulnerable" species sometimes is possible under authorization or by special permission of adequate authorities, but it depends on country or even on the region.

4. Methods for assessing the impact on biodiversity conservation

Ecosystem mapping



Oregano in the fresh meadow, Poland, R. Książopolski Oak forest with *L. pedunculata*, Spain, J. Fernández

There are many potential methods of evaluation, analysis of current situation of the plant species to be collected and methodology of resource management that allows a process of sustainable collection activity (e.g. "Common methodology to evaluate species of MAPs as a wild resource" by Centre Technologic Forestal de Catalunya, ValuePAM project), but they are not widely spread and practically used. They may serve as a potential model of the plan of exploitation for natural resources in different regions.

Botanical research concerning species habitats and indicative plants

It is possible and may be useful to prepare maps of distribution of MAPs species, taking into account the existing data of distribution of the species and the environmental variables, and creating a predictive model supporting decisions taking account of sustainable collection (e.g. "Cartography of current and potential distribution of selected MAP species" by Andanatura, ValuePAM project).

Maps of the environmental strains

According to wild collection of plants procedures and localisation of organic farms some general recommendations exist concerning places for collecting plants and official ways of supervising the process of entering the raw herbal materials based on the control activity of Certifying Agencies for organic agriculture production.

Remote sensing

Different forms of resource assessment have been studied but they are in phase of testing rather, than in general practical use.

The time of flourishing of each plant real time, exact place, etc. can become a very helpful aid for sustainable harvesting and preventing overexploitation.

5. Recommendations

Research recommendations

Choice of research topics:

- Europe-wide systematic and continuous data collection on wild plant harvesting
- The social and environmental impact of medicinal plant - cultivation and collection
- Effects of collection in the most exploited species: the biological behaviour and how plants recover after collection for determining best collecting practices and return periods.
- Development of tools and performing resource assessment, monitoring habitats of wild collected plants in a relatively easy and cheap way (e.g. use of remote sensing)

Training recommendations

Despite all best existing guidelines, there is still a considerable gap between knowledge and implementation but for assuring the best possible quality of raw herbal materials we should concentrate our efforts on the farmers, collectors, producers, handlers and processors to follow good agricultural and collection practices for medicinal plants.

According to WHO-GACP and EMA-GACP, all people working in this field should have adequate botanical training, and be able to recognize medicinal plants by their common names and, ideally, by their scientific (Latin) names. Collectors should also receive instructions on all issues relevant to the protection of the environment and the conservation of plant species, as well as the social benefits of sustainable collection of medicinal plants.

Innovative technical needs

For collectors and for supervising public administrations

- Use of technological devices for assuring the botanical recognition of the plants (Mobile apps, e.g. Plantnet),
- Interactive database to check if the plant to be collected and the area have legal restrictions (protected plants or natural areas),
- Development of methods for natural fostering and increasing the success in "enrich" natural population (e.g. seeding),
- Development of small scale mobile machinery or tools to increase harvesting efficiency (nowadays done manually)
- Use of satellite, plane or drones images to evaluate the plant population evolution in collected areas.



Fresh Camomille, collection in Poland, R. Książopolski *Thymus mastichina* collection in Spain, J.Fernández

Innovative ideas

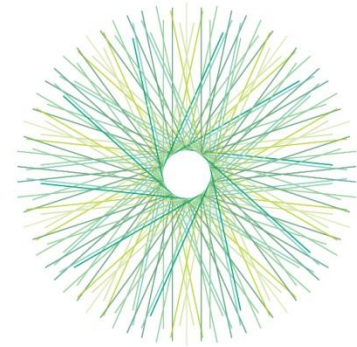
- Wild collection of MAP's could be an opportunity for growth of biodiversity in the future by planting (if possible) the species collected (e.g. small parts of roots like Comfrey) restoring overharvested species, managing the forest in a multifunctional way to foster natural populations.
- Creation of cooperatives for wild medicinal plant-collection and -processing in rural areas, involving for instance unemployed people and forest owners. This entity could perform studies on species distribution in order to suggest which plants could be collected in a specific area.
- Wild collection of MAPs may create job and professional training opportunities for migrants and help them to integrate into rural communities
- European forum of wild collection of plants for sharing good practices, reports of the field, visits done to several producers, examples of networking of producers, searching maps, different projects, see interesting ideas and ways of doing things concerning the main topic.

Conclusions

1. Wild plant collection should be based upon local resource analyses and a local wild resource management plan (or if it concerns into a forest management plan).
2. Wild plants collection for commercial purposes should be subject of certification and local supervision in terms of the correct process of collection (e.g. place of collection, quantities, names of collectors etc.)
3. The key element of the correct process of collection is the compliance of the course with the management plan of natural resources, which should be permanent condition for prolonging cooperation with organizers of the wild collection and the collectors
4. Training at all levels of the supply chain of raw herbal materials is a prerequisite for successful compliance with policies and procedures
5. Important element in the development of awareness about the sustainable collection of wild plants could be information about the origin and perhaps the label of the finished product – Wild Collected in Europe

Potential Operational Groups

| Theme | Description |
|---|---|
| Cooperation between land owners and collectors of wild plants | The aim is to optimise methods of collection and avoid overharvesting and develop models and legal aspects of cooperation |
| Incubator of sustainable, organic MAP's collection | The aim is to demonstrate good practices and create local models of wild collection depending on local potential |
| New short supply chains at small scale for wild collection of MAP's | The aim is to develop the most profitable and sustainable model of wild collection of MAP's |
| Assessing remote sensing methodologies for collection of wild MAP's | The aim is to optimise conditions of collection for good quality of products and the best possible resource management |
| Natural fostering of areas of MAP's collection | The aim is to examine how to help in the regeneration of most collected species |
| Testing of the adaptation of MAP's in given areas linked to climate change | The aim is to establish some models for examining new possibilities of wild collection in the future |
| Developing small scale tools- machines, helping in wild collection/identification | The aim is to optimize conditions of small scale and sustainable wild collection of MAP's |



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The European Innovation Partnership 'Agricultural Productivity and Sustainability' (EIP-AGRI) is one of five EIPs launched by the European Commission in a bid to promote rapid modernisation by stepping up innovation efforts.

The **EIP-AGRI** aims to catalyse the innovation process in the **agricultural and forestry sectors** by bringing **research and practice closer together** – in research and innovation projects as well as *through* the EIP-AGRI network.

EIPs aim to streamline, simplify and better coordinate existing instruments and initiatives and complement them with actions where necessary. Two specific funding sources are particularly important for the EIP-AGRI:

- ✓ the EU Research and Innovation framework, Horizon 2020,
- ✓ the EU Rural Development Policy.

An EIP AGRI Focus Group* is one of several different building blocks of the EIP-AGRI network, which is funded under the EU Rural Development policy. Working on a narrowly defined issue, Focus Groups temporarily bring together around 20 experts (such as farmers, advisers, researchers, up- and downstream businesses and NGOs) to map and develop solutions within their field.

The concrete objectives of a Focus Group are:

- ✓ to take stock of the state of art of practice and research in its field, listing problems and opportunities;
- ✓ to identify needs from practice and propose directions for further research;
- ✓ to propose priorities for innovative actions by suggesting potential projects for Operational Groups working under Rural Development or other project formats to test solutions and opportunities, including ways to disseminate the practical knowledge gathered.

Results are normally published in a report within 12-18 months of the launch of a given Focus Group.

Experts are selected based on an open call for interest. Each expert is appointed based on his or her personal knowledge and experience in the particular field and therefore does not represent an organisation or a Member State.

*More details on EIP-AGRI Focus Group aims and process are given in its charter on:

http://ec.europa.eu/agriculture/eip/focus-groups/charter_en.pdf

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