

European Medicinal and Aromatic Plant (MAP) Farming, Processing and Training Alliance

‘Questionnaires and focus group research from all countries’



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Overview

The WildMAPsFiT aims to create a contemporary and innovative curriculum of medicinal and aromatic plant cultivation, harvesting, processing, storage, and marketing for young farmers, collectors, processors, herbalists. In order to develop teaching materials, we have considered the views of different stakeholders involved in medicinal and aromatic plant sector in different countries (i.e., Ireland, Turkey, Greece, Italy, and Spain) using questionnaires and focus group

research. The current document presents the questionnaire reports and the conclusions from the focus group research for each country.

1. Questionnaire reports

1.1. Questionnaire report – UCD (Ireland)

1. Profile of participants answered the questionnaire

- In the current research 32 individuals answered the questionnaire. From those, 40.6% were females, 43.8% were males, while 15.6% preferred not to say (Figure 1).

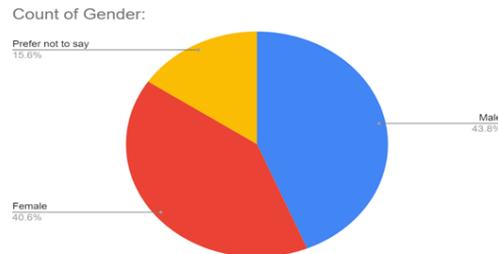


Figure 1. Gender of participants.

- 56.25% of the participants were between 45-64 years old, followed by those that were between 25-44 years old (37.5%) (Figure 2).

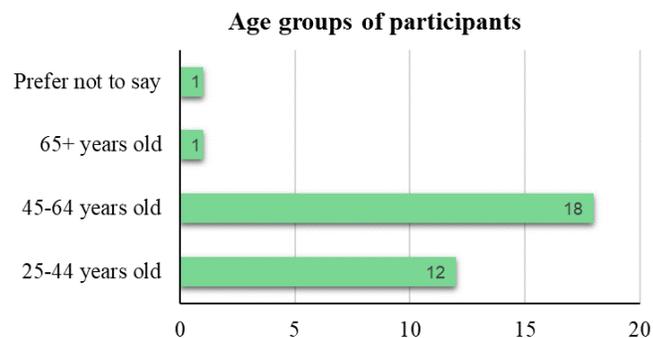


Figure 2. Age groups of the participants filled out the questionnaire.

- The educational background of the participants varied. The majority of the applicants had a bachelor's degree (43.8%), followed by those having a master's degree (34.4%) and secondary or previous education (15.6%), while 6.3% of the participants had a doctoral degree (Figure 3).

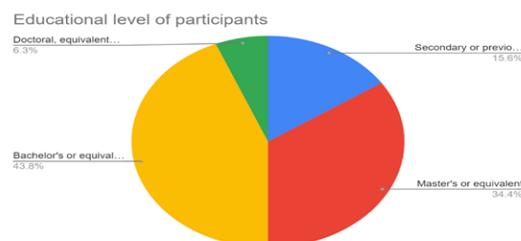


Figure 3. Educational level of the participants.

- Most of participants were producers (53.1%), followed by collectors of MAPs (25%), manufactures of MAP-based products (18.8%), and primary processors (3.1%) (Figure 4), while 40.6% of the participants use the collected harvest MAPs for commercial purposes (Figure 5).

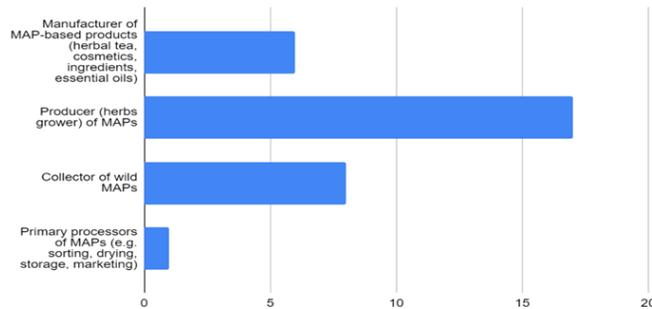


Figure 4. Relation of the participants with Medicinal & Aromatic Plants (MAPs).

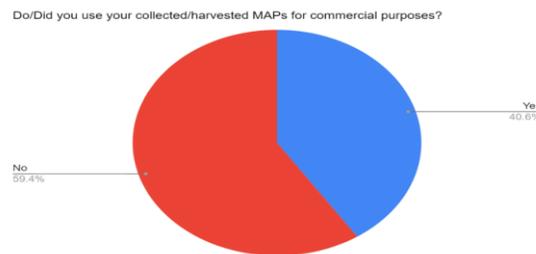


Figure 5. Purpose of collected/harvested MAPs.

2. Training

2.1. Training that the participants have already received

- Most of the participants (23 out of 32) have not received professional training in collection, production, and processing of MAPs (Figure 6).



Figure 6. Percentage of participants who have received professional training in collection, production, and processing of MAPs.

- Table 1 shows the type of training that the 9 out of 32 participants have already received. Most of the participants have received training in MAPs growing, harvesting, processing, and drying.

Table 1. Training that has already been received by the participants.

Training	Responses
Growing, harvesting, processing, and drying of MAPs	7
Propagation	2
Herbal Medicine	2
Good agricultural and collection practice (GACP)	2
Growing organic	2
Packaging of fresh herbs	1

2.2. Training that the participants would like to receive

2.2.1. Practices that the participants would you like to learn through training on MAPs

- As it is seen in Table 2, the topics that the participants are interested in receiving training are i) Other post-harvest activities (i.e., hydro-distillation, compounds' extraction, and/or MAP based products manufacturing), ii) production of MAPs, iii) wild collection, and iv) primary processing.

Table 2. Training that the participants would like to receive.

Training	Responses
Other post-harvest activities (hydro-distillation, compounds' extraction, and/or MAP based products manufacturing)	22
Production of MAPs (growing own herbs)	18
Wild collection	18
Primary processing (on-farm drying, freezing, storage)	16
Seed saving	1
I would like to help create a network of small scale native wild plant nurseries - so that we can all supply our own local communities and to minimise plants being taken from the wild	1

native species for ecosystems restoration including many herbs	1
product safety and testing / Legislation/ regulatory framework/ marketing	1
None	3

2.2.2. Subject might be of your interest to know in-depth?

- As it is seen in Table 3, subjects that the participants are most interested in knowing in depth are i) sustainable wild collection, ii) renewable energies and by-product valorisation, iii) transformation, iv) post-harvest processing, v) harvesting of raw materials and use, and vi) packaging and storage.

Table 3. Training in-depth that the participants would like to receive.

Subject of interest	Responses
Sustainable wild collection (methodology, legislation, control...)	21
Renewable energies and by-product valorisation	20
Transformation (hydro-distillation, extraction processes...)	18
Post-harvest processing (drying process, preservation...)	17
Harvesting of raw materials and use	15
Packaging and storage	14
New application technologies (management tools & analytics...)	12
Good Agricultural and Collection Practices (GACP)	11
Basics of plant science with emphasis on MAPs	10
Marketing and business	9
Farm machinery and equipment	9
Agricultural practices,	7
Digital technologies (GPS, GIS...)	6
Communication and marketing tools	4
Product safety / testing legislation/ regulation	1
funding application support	1
Others (i.e., alternative uses other than your very limited alternative uses, create a network of small scale native wild plant)	2

3. Collecting MAPs

3.1. Type of wild Medicinal & Aromatic Plants that are collected in participants' area

- As it can be seen in the MAPs in Table 4 the wild MAPs that are collected in participants' area are trees, bushes, and herbs. Table 5 shows the common names of some MAPs most collected in Ireland.

Table 4. Type of wild Medicinal & Aromatic Plants collected in participants' area.

Type of wild Medicinal & Aromatic Plants	Responses
Trees (Allspice, Bay (Laurel), Elderberry, Mastic tree, Tilia spp., etc.)	7
Bushes (Honeysuckle, Rosehip, Juniper, Abelia, etc.)	7
Herbs (Anise, Basil, Chamomile, Mint, Thyme, Oregano, Lavender, etc.)	5

Table 5. Common names of some MAPs most collected.

elderberry, nettles, wild garlic, honeysuckle, primrose, blueberry, birdsfoot trefoil, bluebell, cowslip, meadow buttercup, field scabious, fleabane, foxglove, hedge garlic mustard, kidney vetch, lady's bedstraw, marjoram, meadowsweet, loosestrife, ragged robin, red clover, redshank, ribwort plantain, sorrel, st. johnswort, wild carrot, wild valerian, yarrow, bay laurel, rosehip, chamomile, tilia, birch polypore, turkey tails, fomes fomentarius, hawthorn, spruce, alexanders, colts foot, dock, dandelion, linden, betony, pineapple weed, mugwort, bedstraws, self-heal, ground ivy

3.2. How many different medicinal plant species do you collect?

- 8 out of 32 participants answered this question. The number of species collected varied among the different participants from 3 to 150.

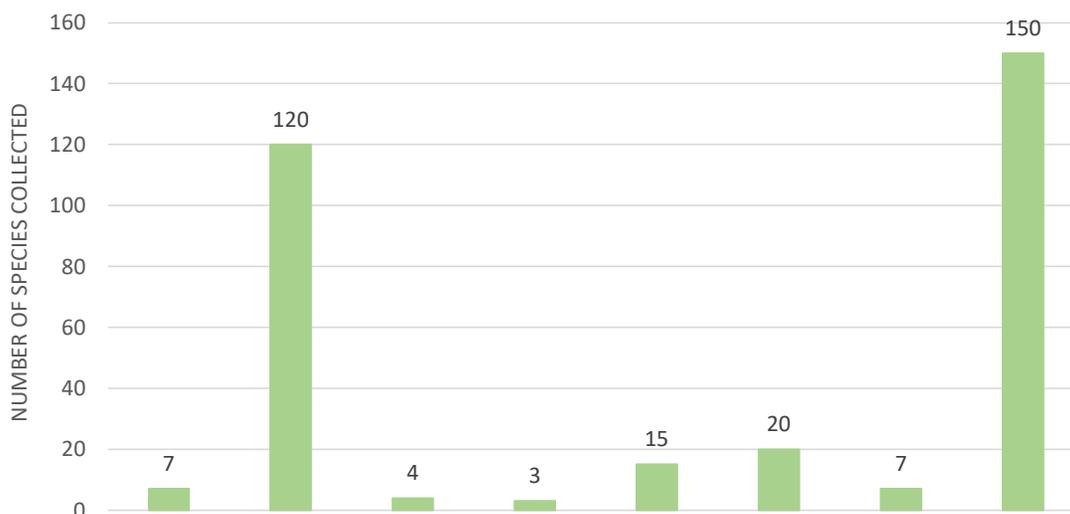


Figure 7. Number of species collected in Ireland.

3.3. When and how long is the usual harvest period?

- 7 out of 32 participants answered this question.
- June to August seems to be the harvesting period for MAPs in Ireland (Table 6).

Table 6. Harvesting period in Ireland.

Response	Period
A	June to October
B	May to November
C	June to August
D	February to October
E	June to August
F	June to August
G	January to December

3.4. What is the approximate area dedicated to wild harvest?

- 7 out of 32 participants answered this question.
- The dedicated area to wild harvest in Ireland varied between 0.2 to 200 ha.

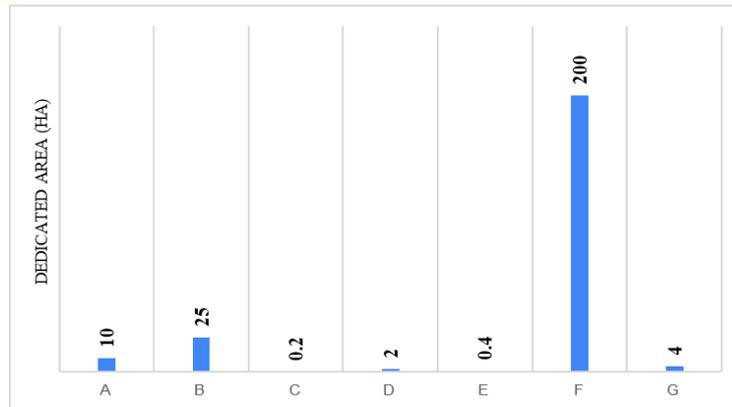


Figure 8. Dedicated area to wild harvest in Ireland.

3.5. What quantity of wild MAPs do you harvest?

- 7 out of 32 participants answered this question.
- One participant answered that he harvests approximately 3000kg, while the rest of the participants harvest between 3 to 20 kg.

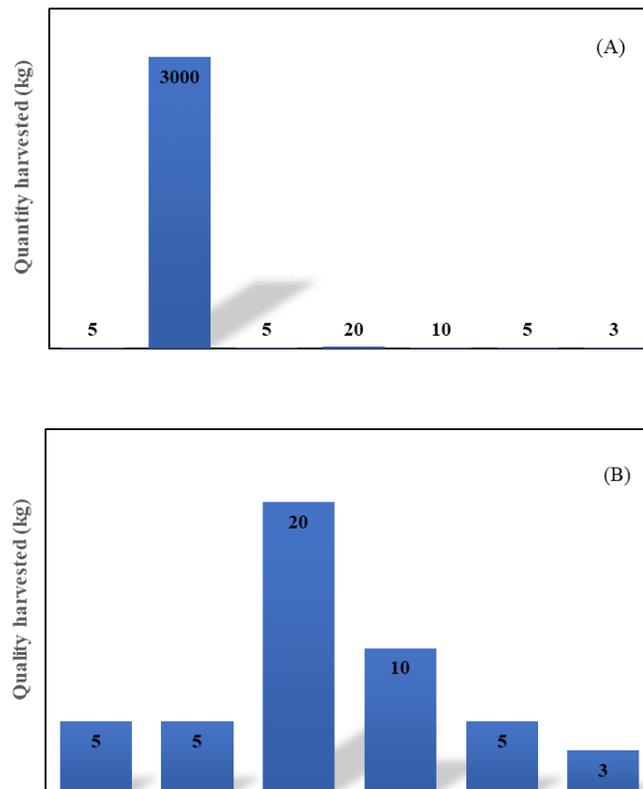


Figure 9. Quantity of wild MAPs harvested in Ireland. (A) responses of 7 out of 32 participants; (B) responses of 6 out of 32 participants (after removing the response of 3000 kg).

4. Growing MAPs

4.1. Which is the most important Medicinal & Aromatic Plant(s) of your farm and what is the total area dedicated to MAPs production?

- Table 7 shows the most important MAPs grown in the participants farms in Ireland and their total production area.
- Most of the participants grow culinary vegetables such as parsley, coriander, basil, etc.
- Some of the participants also grow wild MAPs such as nettles, wild garlic, plantain, cleaves.

Table 7. The most important Medicinal & Aromatic Plant(s).

MAPs	Total area (ha)
Hemp	0.5
Culinary herbs (basil, Parsley)	0.25
<i>Calendula officinalis, Melissa officinalis, Rosmarinus officinalis</i>	0.1
Hemp	0.4
Comfrey	0.1
Basil	3
rosemary	0.2-0.4
Parsley	0.001
Calendula	0.1
Large Herb collection	1
Coriander and parsley	60
Culinary herbs	0.5
Nettles, wild garlic, plantain, cleavers, elder	0.36
Yarrow, Meadowsweet, Valarian, Mugwort, Selfheal, Daisy, Red Clover	0.4

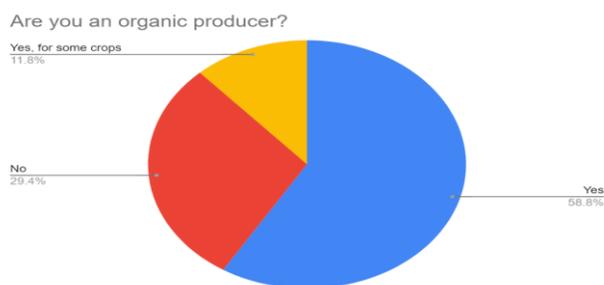


Figure 10. Percentage of producers grown organic.

5. MAPs processing

5.1. Type of MAPs raw material that is most requested for participants work

- 54.5% of the participants use fresh raw materials, while 27.3% of the participants use dried (Figure 11).

- Less than 10% of the participants process the MAPs raw material to produce essential oils (Figure 11).

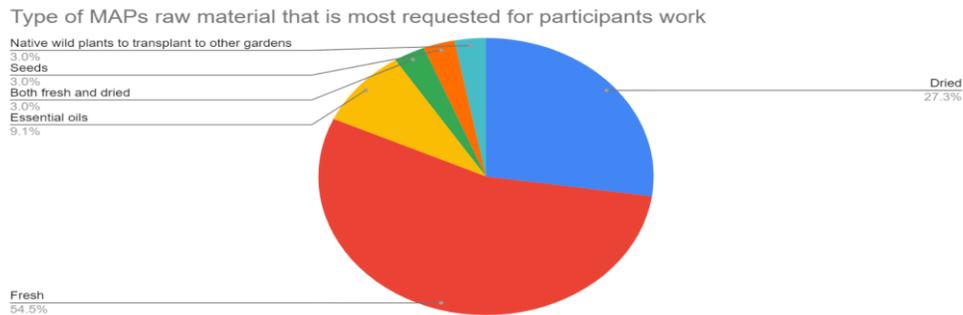


Figure 11. Type of MAPs raw material that is most requested for participants work.

5.2. Would you consider drying as an essential step for MAPs preservation?

- 68.8% of the participants consider drying as an essential step for MAP's preservation (Figure 12).

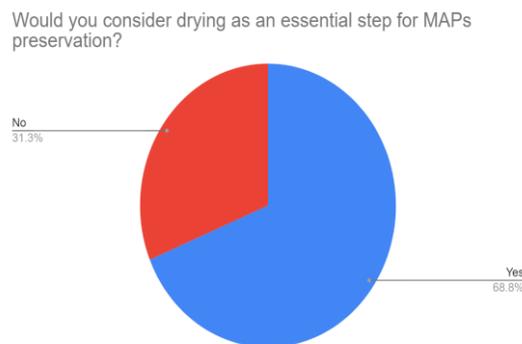


Figure 12. Percentage of participants that would or would not consider drying as an essential step for MAP's preservation.

5.3. Would you describe drying as a complex or expensive system for MAPs distribution?

- 54.2% of the participants would not describe drying either complex or expensive for MAPs distribution.
- 29.2% would describe drying as complex and expensive for MAPs distribution (Figure 13).

Would you describe drying as a complex or expensive system for MAPs distribution?

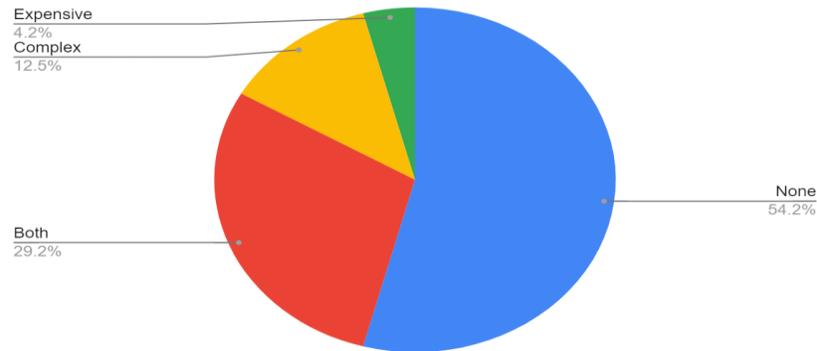
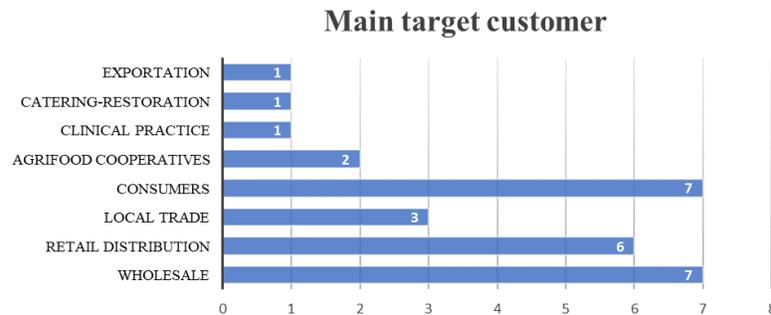


Figure 13. Percentage of participants that would describe drying as a complex or expensive system for MAPs distribution.

6. MAPs market

6.1. Which is your main target customer and that is the main type of sales format do you use?

- 13 participants answered this question. The main target consumers are wholesale and consumers, followed by retail distribution (Figure 14).
- The main type of sale format used from the participants is unit/s packaging, followed by bulk packaging and fresh plants (Figure 15).



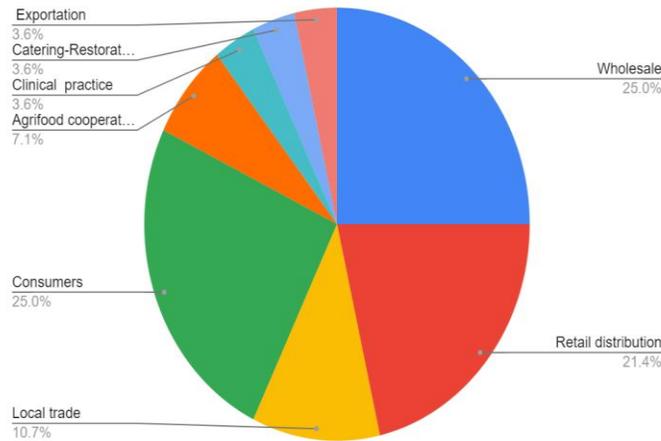


Figure 14. Main target customers.

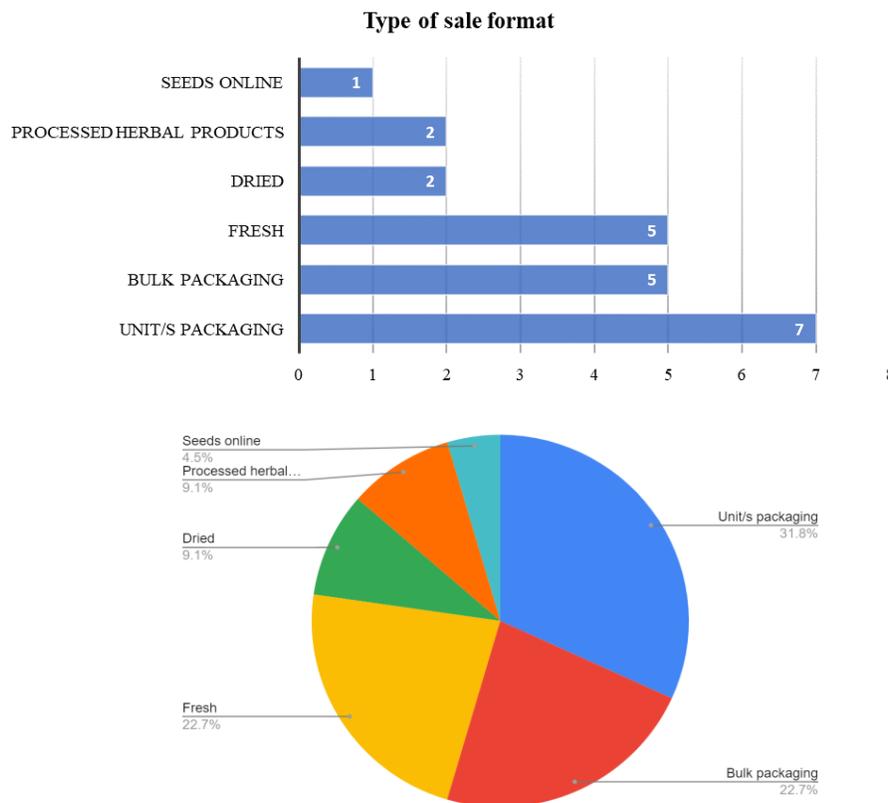


Figure 15. Type of sale format.

7. MAPs tools and knowledge

7.1. If you use any communication and marketing tools to show your work or to connect with potential consumers, which do you use?

- 18 out of 32 participants use more than one marketing tool to show their work and to connect with consumers (Figure 16).

- Social network is the most frequent response regarding this question, followed by web, and food exhibition fairs (Figure 16).

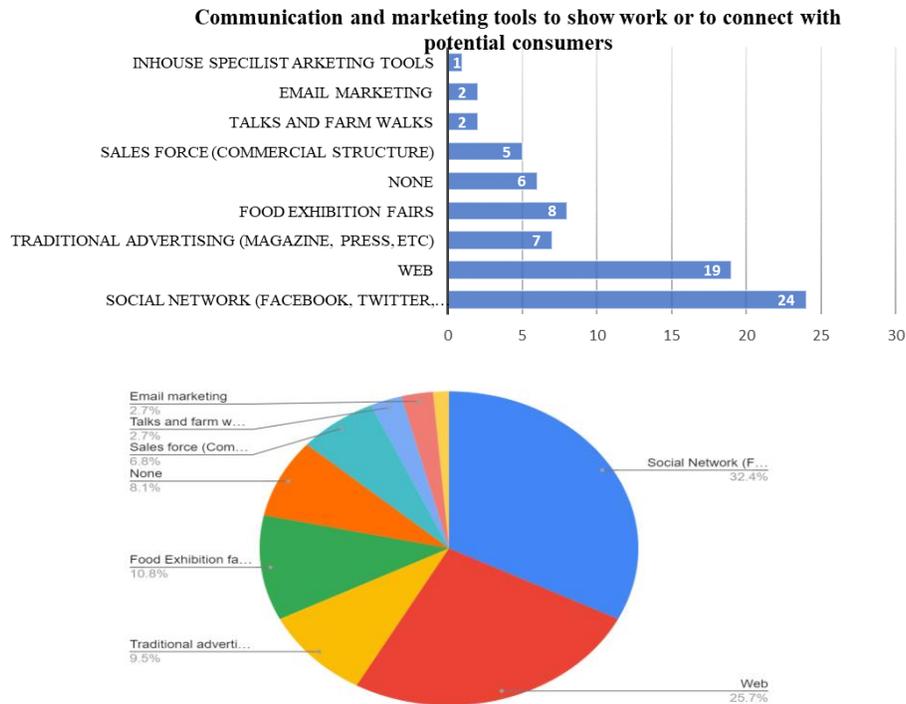


Figure 16. Type of sale format.

7.2. Do you use any modern technological tools when collecting/producing MAPs?

- Technologies such as weather data, GPS, plant identification apps are used when collecting/producing MAPs in Ireland (Figure 18).
- However, most of the participants do not use any modern technological tool when collecting MAPs (Figure 18).

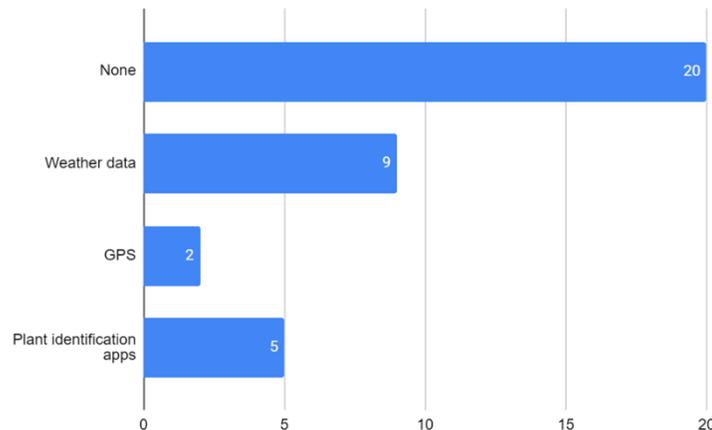


Figure 18. Modern technological tools for collecting/producing MAPs.

7.3. For what kind of collecting and/or producing activity would you like to use digital or online tools?

- Table 8 shows the types of collecting and/or producing activities that the participants would like to use digital or online tools for.

Table 8. Type of collecting and/or producing activity that the participants would like to use digital or online tools for.

Marketing-sales	GPS for planting
Weather data	Identification, agricultural practices
Analysis for quality control	Product certification
Growing	Network of small scale wild native plant & medicinal/useful plants nursery
Crop inputs	

7.4. What other non-crop specific information might interest you?

- Participants would be interested in learning about i) using new technologies, ii) organization and management of production, iii) marketing and networking, as well as iv) offer concentration and brand creation (Figure 19).

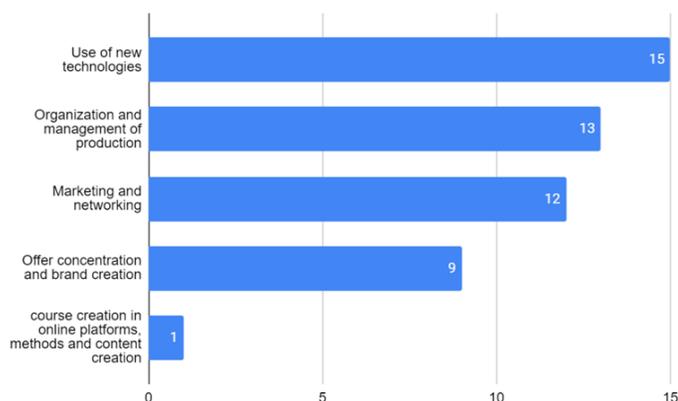


Figure 19. Non-crop information that the participants might be interested in.

7.5. Actions that the participants would like to be contacted for

- The participants would like to be contacted for webinars, workshops, training, as well as to receive the wildmapsfit info sheet.

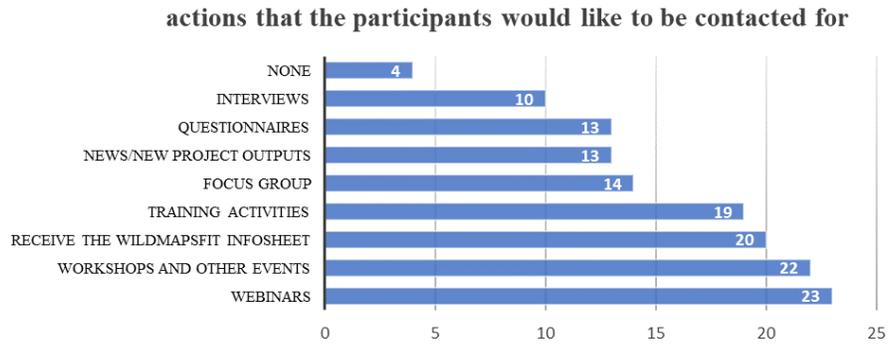


Figure 20. Actions that the participants would like to be contacted for.

1.2. Questionnaire report – FEUGA (Spain)

1. Profile of participants answered the questionnaire

- In the current research 29 individuals answered the questionnaire. From those, 65.5 % (19) were females, 24.1% (7) were males, while 6.9 % (2) preferred not to say, and 3.4% (1) informed non binary gender (Figure 1).

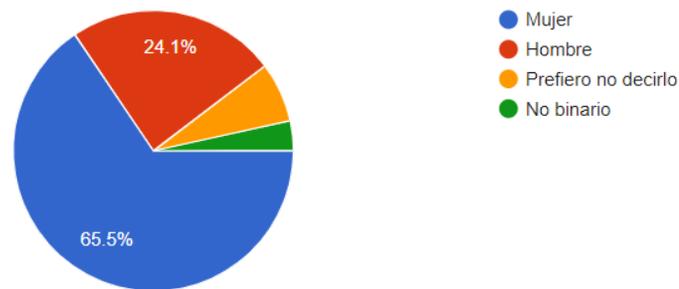


Figure 1. Gender of participants.

- 40% (12) of the participants were between 45-64 years old, while 53,3% (16) of the participants were between 25-44 years old (Figure 2).

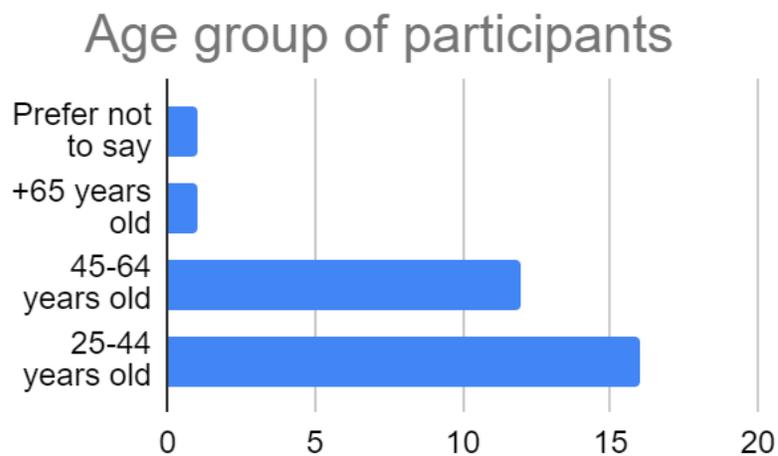


Figure 2. Age groups of the participants filled out the questionnaire.

- The educational background of the participants varied. The majority of the applicants had a bachelor's degree (65.5%; 19), followed by those having secondary or previous education (20.7%; 6), a master's degree (6.9%; 2), , and a doctoral degree (6.9%; 2) (Figure 3).

¿Cuá es tu nivel educativo?
29 responses

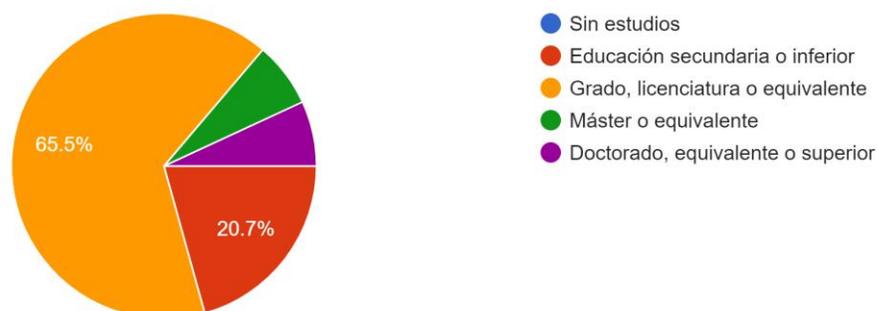


Figure 3. Educational level of the participants.

- Most of participants were manufactures of MAP-based products¹ (44.8%; 13), followed by collectors of MAPs (24,1%; 7), MAP growers (17.2 %; 5), and primary processors (13.8%; 4) (Figure 4), while 51.7% (15) of the participants use the collected harvest MAPs for commercial purposes (Figure 5).

¿Cuál es tu relación con las MAPs?
29 responses

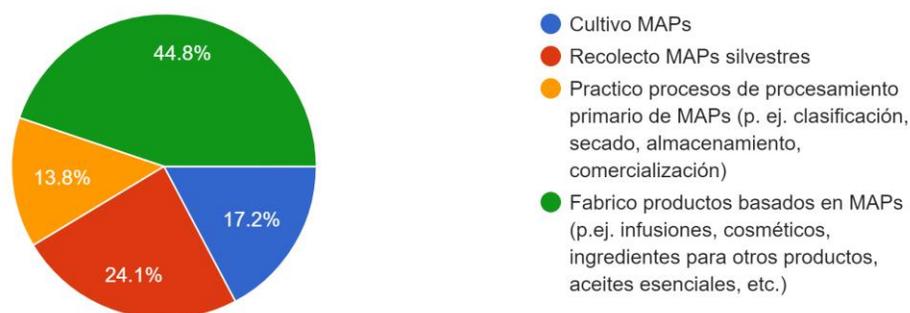


Figure 4. Relation of the participants with Medicinal & Aromatic Plants (MAPs)

¹ Take into account that most of these manufacturers also collect or grow MAPs, but they usually choose their main profile.

¿Utilizas algunas de las plantas cultivadas/recolectadas con fines comerciales?

29 responses

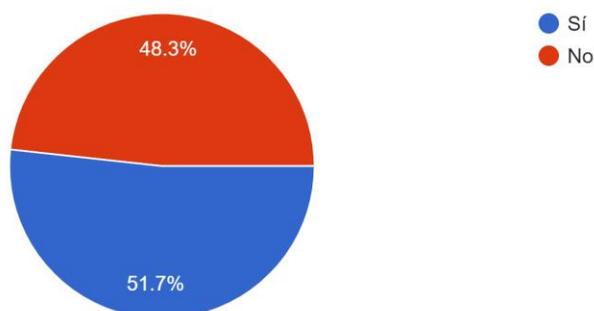


Figure 5. Purpose of collected/harvested MAPs.

2. Training

2.1. Training that the participants have already received

- Half of the participants (62,1%) have not received professional training in collection, production, and processing of MAPs, while 37,9% did. (Figure 6).

¿Has recibido algún tipo de formación en recogida, cultivo y/o procesamiento de Plantas Medicinales y Aromáticas (MAPs)?

29 responses

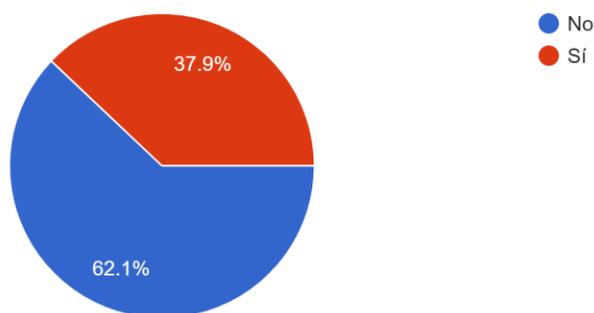


Figure 6. Percentage of participants who have received professional training in collection, production, and processing of MAPs.

- Table 1 shows the type of training that the participants have already received. Most of the participants have received training in Growing, harvesting, processing, and drying of MAPs, but topics such as packaging are included.

Table 1. Training that has already been received by the participants.

Training	Responses
Growing, harvesting, processing, and drying of MAPs	6
Propagation	-
Herbal Medicine	3
Good agricultural and collection practice (GACP)	-
Growing organic	2
Packaging of fresh herbs ²	-

2.2. Training that the participants would like to receive

2.2.1. Practices that the participants would you like to learn through training on MAPs

- As it is seen in Table 2, the topics that the participants are interested in receiving training are i) wild collection, ii) Primary processing (on-farm drying, freezing, storage), iii) Other post-harvest activities (hydro-distillation, compounds' extraction, and/or MAP based products manufacturing), and iv) Production of MAPs (growing own herbs).

Table 2. Training that the participants would like to receive.

Training	Responses
Other post-harvest activities (hydro-distillation, compounds' extraction, and/or MAP based products manufacturing)	23
Production of MAPs (growing own herbs)	21
Wild collection	25
Primary processing (on-farm drying, freezing, storage)	25
Contents related to commercialization	1

² Some of the training mentioned includes this topic.

How to train young people and facilitate their tutelage	1
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2.2.2. Subject might be of your interest to know in-depth?

- As it is seen in Table 3, the subjects that the participants are interested in knowing in depth are i) Sustainable wild collection (methodology, legislation, control...), ii) Good Agricultural and Collection Practices (GACP), iii) Post-harvest processing (drying process, preservation...), iv) Transformation (hydro-distillation, extraction processes...), v) Marketing and business, and vi) Packaging and storage.

Table 3. Training that the participants would like to receive.

Subject of interest	Responses
Sustainable wild collection (methodology, legislation, control...)	24
Renewable energies and by-product valorisation	12
Transformation (hydro-distillation, extraction processes...)	16
Post-harvest processing (drying process, preservation...)	19
Harvesting of raw materials and use	13
Packaging and storage	12
New application technologies (management tools & analytics...)	8
Good Agricultural and Collection Practices (GACP)	17
Basics of plant science with emphasis on MAPs	10
Marketing and business	18
Farm machinery and equipment	6
Agricultural practices,	10
Identification of MAPS	21
Digital technologies (GPS, GIS...)	8
Communication and marketing tools	8

3. Collecting MAPs

3.1. Type of wild Medicinal & Aromatic Plants that are collected in participants' area

- As it is seen in Table 4, the wild MAPs that are collected in participants' area are mainly herbs. Table 5 shows the common names of some MAPs most collected in Spain.

Table 4. Type of wild Medicinal & Aromatic Plants (MAPs) collected in participants' area.

Type of wild Medicinal & Aromatic Plants	Responses
Trees (Allspice, Bay (Laurel), Elderberry, Mastic tree, Tilia spp., etc.)	1
Bushes (Honeysuckle, Rosehip, Juniper, Abelia, etc.)	1
Herbs (Anise, Basil, Chamomile, Mint, Thyme, Oregano, Lavender, etc.)	7

Table 5. Common names of some MAPs most collected.

cotton lavender (<i>Santolina chamaecyparissus</i>), lavender, thyme, hypericum, olive leaves, hazel, marigold, rosemary, nettle, marjoram, lemon balm, sage, yarrow, peppermint.

3.2. How many different medicinal plant species do you collect?

- 7 participants answered this question. The number of species collected varied among the different participants from 3 to 25.

¿Cuántas especies diferentes de plantas medicinales recolectas?

7 responses

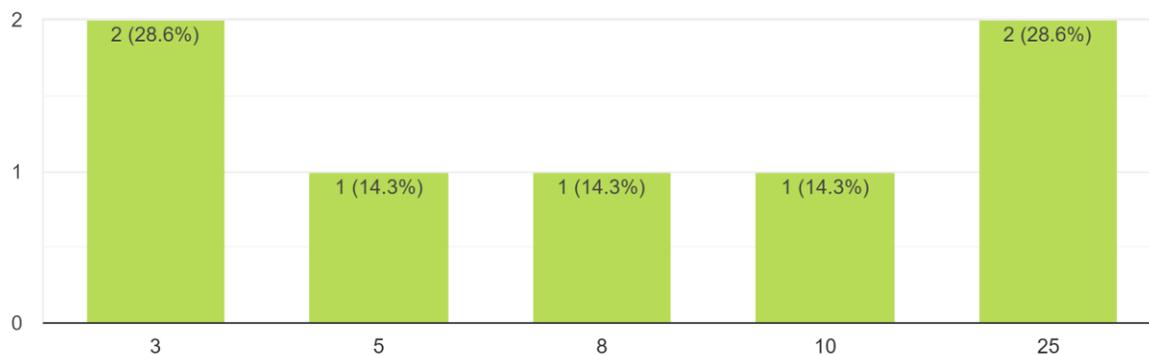


Figure 7. Number of species collected in Spain.

3.3. When and how long is the usual harvest period?

- 7 of 29 participants answered this question.
- All year harvesting seems to be the main harvesting period for MAPs in Spain (Table 6).

Table 6. Harvesting period in Spain.

Response	Period
A	All year
B	All year
C	All year
D	June to August
E	June to August
F	All year
G	from May to September

3.4. What is the approximate area dedicated to wild harvest?

- 7 of 20 participants answered this question.

- The area dedicated to wild harvest in Spain varied between 2 to 25 ha. Moreover, two participants indicated that they collect throughout the region, and another answered “scattered areas”.

¿Cuál es el área aproximada dedicada a la recolección silvestre?

7 responses

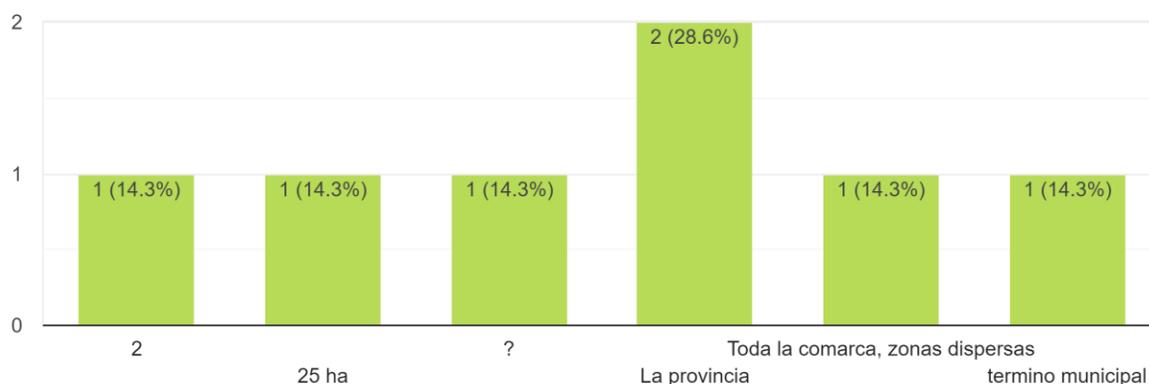


Figure 8. Dedicated area to wild harvest in Spain.

3.5. What quantity of wild MAPs do you harvest?

- 7 of 20 participants answered this question.
- 2 participants answered that they usually harvest approximately 1 kg. The quantity range goes from less than 1 kg to 10 kg.

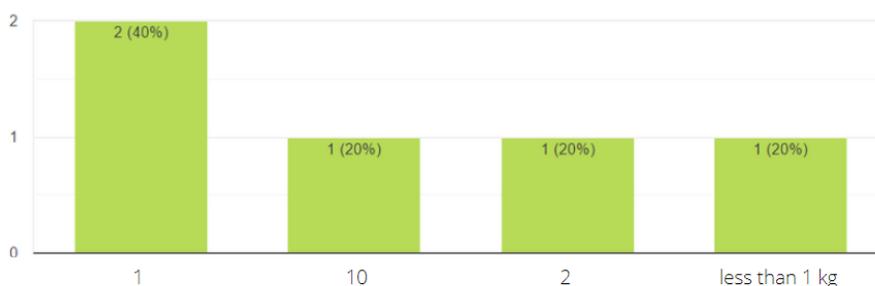


Figure 9. Quantity of wild MAPs harvested in Spain.

4. Growing MAPs

4.1. Which is the most important Medicinal & Aromatic Plant(s) of your farm and what is the total area dedicated to MAPs production?

- Table 7 shows the most important MAPs grown in the participants' farms in Spain and their total production area.

- Most of the participants grow lavender and most of them mention a mixed crop (e.g. with mint, thyme, rosemary). Thyme is also mentioned several times.

Table 7. The most important Medicinal & Aromatic Plant(s).

MAPs	Total area (ha)
Lavender	> 1 ha
Rosemary, thyme, mint, lavender	0,1 ha
Blueberry	2,5 ha
<i>Mixed crop (not specified, besides blueberry)</i>	7,5 ha

¿Tus cultivos son orgánicos?

5 responses

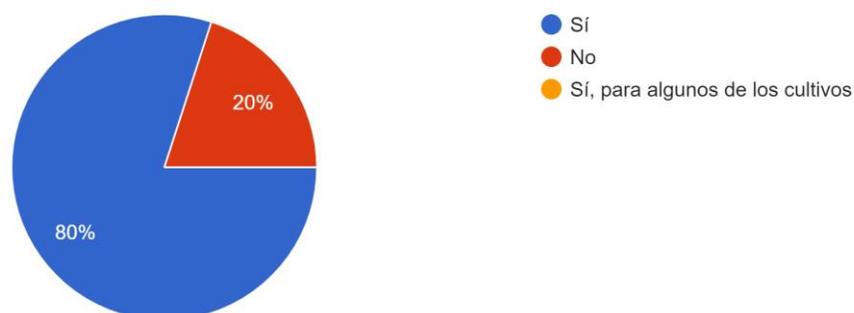


Figure 10. Percentage of producers grown organic.

5. MAPs processing

5.1. Type of MAPs raw material that is most requested for participants work

- 60% of the participants use dried raw material while 20% of the participants use fresh MAP (Figure 11).
- 20% of the participants use both fresh and dried raw materials, depending on the products that they have to develop. They usually produce soap, essential oils, and similar, and they also test different raw materials for different products.

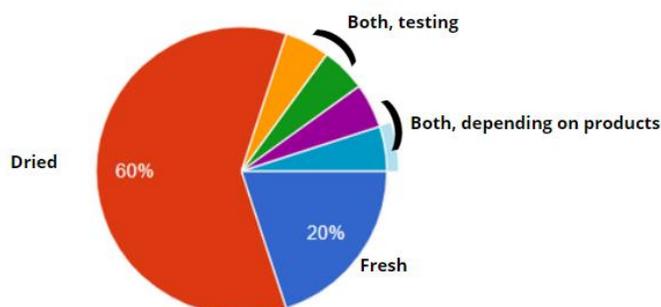


Figure 11. Type of MAPs raw material that is most requested for participants' work.

5.2. Would you consider drying as an essential step for MAPs preservation?

- Almost 100% of the participants consider drying as an essential step for MAP's preservation (Figure 12).

¿Consideras el secado como un paso esencial para la conservación de MAPs?

29 responses

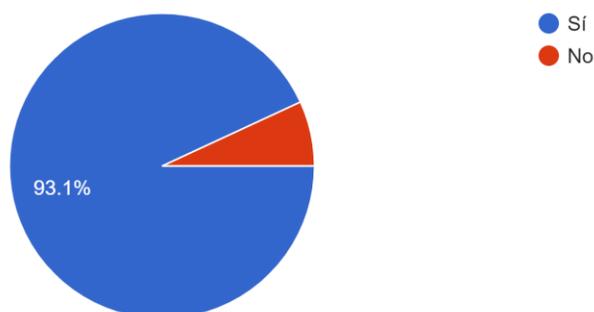


Figure 12. Percentage of participants that would or would not consider drying as an essential step for MAP's preservation.

5.3. Would you describe drying as a complex or expensive system for MAPs distribution?

- Most of the participants (45%) consider that drying is neither expensive nor complex, while 10% consider drying as both expensive and complex.
- 40% of the participants describe drying as complex for MAPs distribution (Figure 13), and just 5% consider drying as expensive.

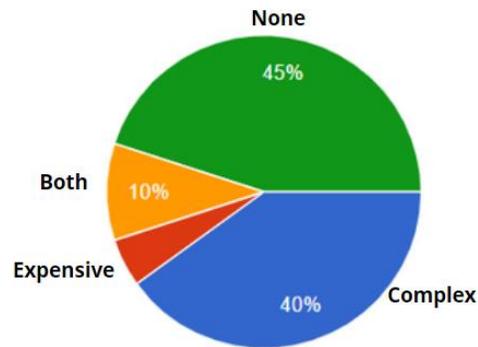


Figure 13. Percentage of participants that would describe drying as a complex or expensive system for MAPs distribution.

6. MAPs market

6.1. Which is your main target customer and what is the main type of sales format you use?

- 15 participants answered this question. The main target consumers are local trade and consumers, followed by wholesale and retail distribution (Figure 14).
- Both bulk packaging and dried plants are the sales format most used by participants, followed by unit packaging. Not all the participants answered dried/fresh options. (Figure 15).

Main target customers

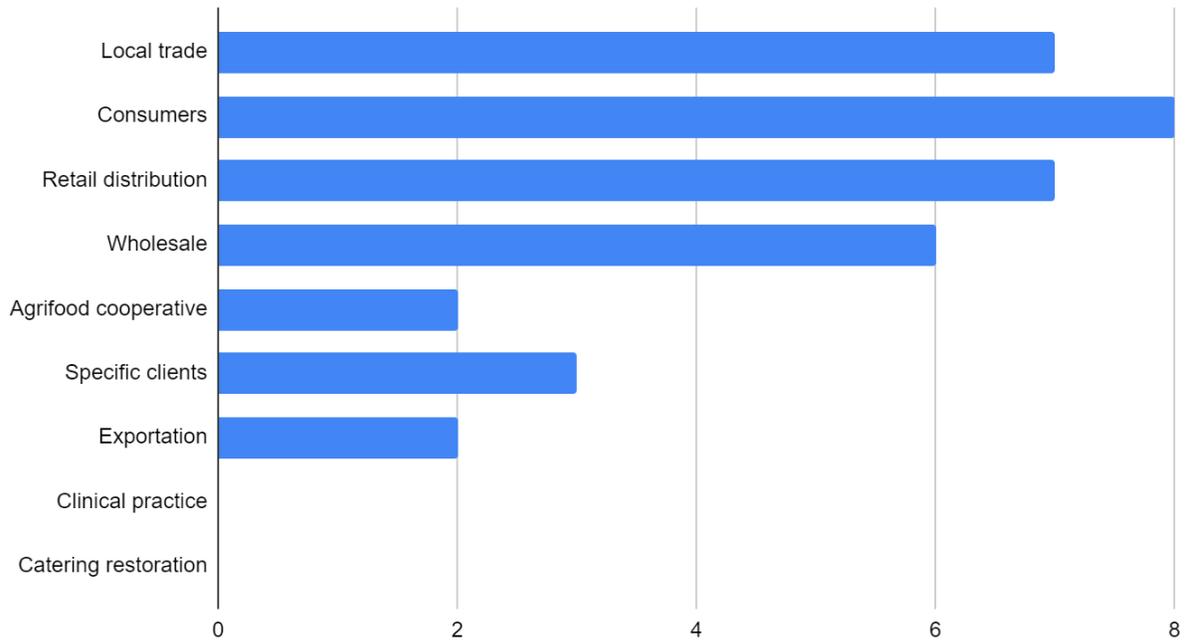


Figure 14. Main target customers.

Type of sales format

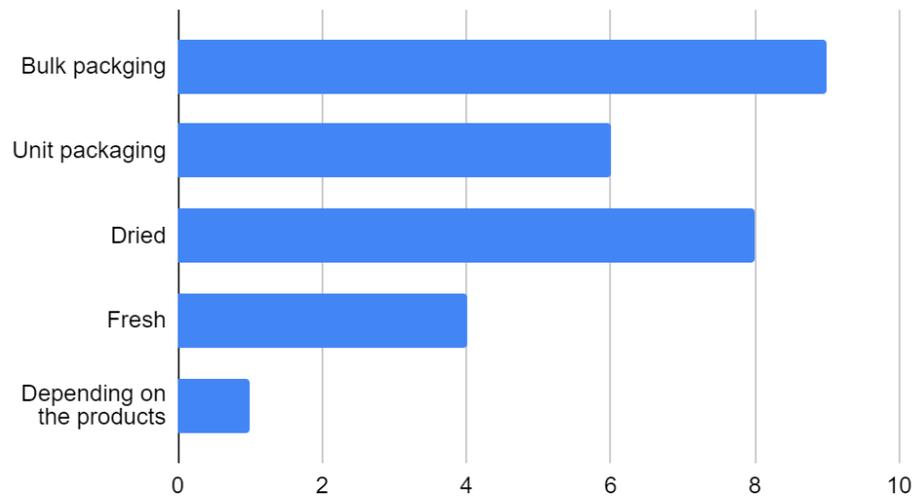


Figure 15. Type of sale format.

7. MAPs tools and knowledge

7.1. If you use any communication and marketing tools to show your work or to connect with potential consumers, which do you use?

- 14 out of 29 participants use more than one marketing tool to show their work and to connect with consumers.
- None is the most frequent response regarding this question, followed by social media, and exhibition fairs (Figure 16).

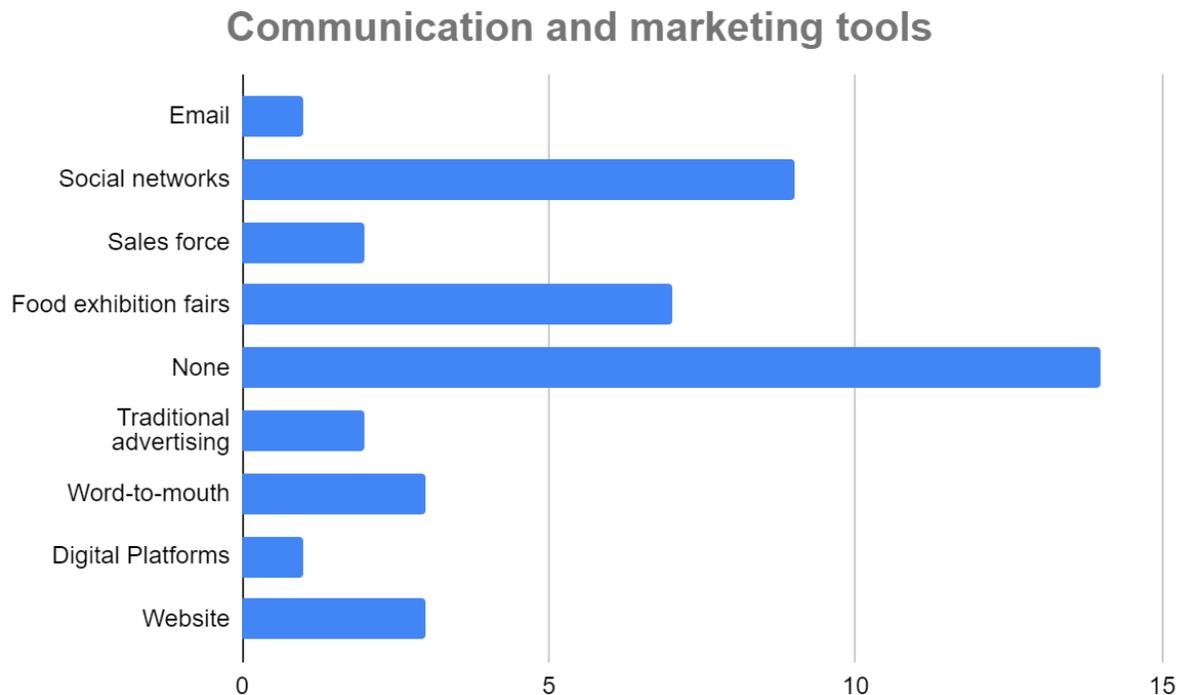


Figure 16. Type of sale format.

7.2. Do you use any modern technological tools when collecting/producing MAPs?

- Technologies such as plant identification apps, and weather data are sometimes used when collecting/producing MAPs in Spain (Figure 17).
- However, most of the participants do not use any modern technological tool when collecting MAPs (Figure 17).

Modern technological tools for collecting/producing MAPs

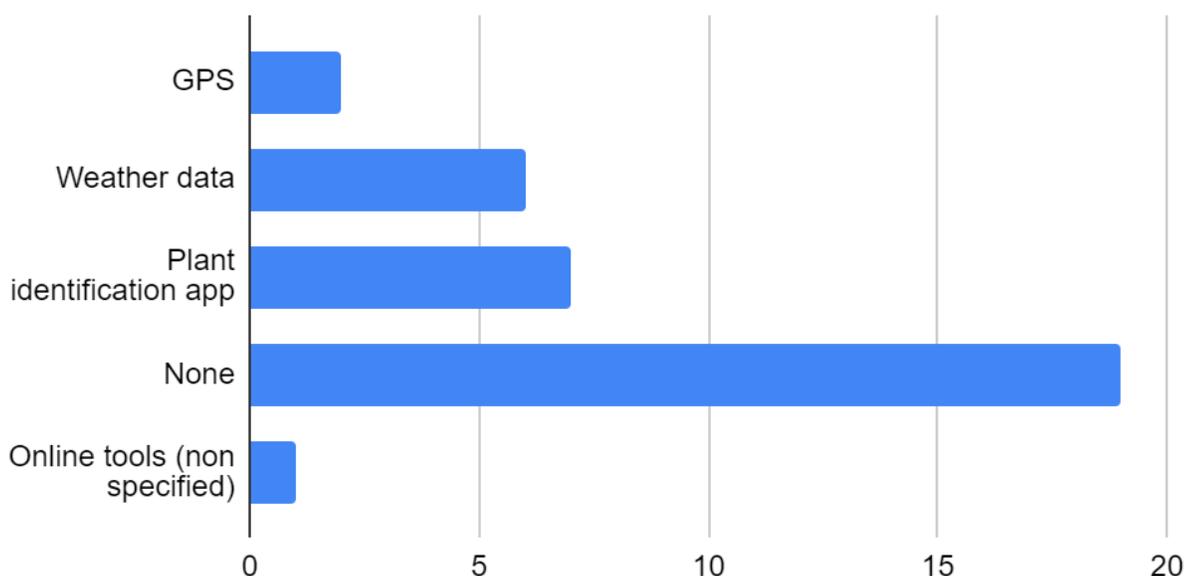


Figure 17. Modern technological tools for collecting/producing MAPs.

7.3. For what kind of collecting and/or producing activity you would like to use digital or online tools?

- Table 8 shows the types of collecting and/or producing activities that the participants would like to use digital or online tools for.

Table 8. Type of collecting and/or producing activity that the participants would like to use digital or online tools for.

Alternative medicine
Drying processes for commercialization
Tools that support the collection process
Tools to identify plagues and diseases
Tools to manage sales (costs, marketing, etc.)

7.4. What other non-crop specific information might interest you?

- Participants would be interested in learning about i) organization of management and production, ii) Marketing and networking, and offer concentration and brand creation, and

iii) Use of new technologies (Figure 18). Moreover, specific participants mention interest in certification (related to training) and sales.

Non-crop information that the participants might be interested in

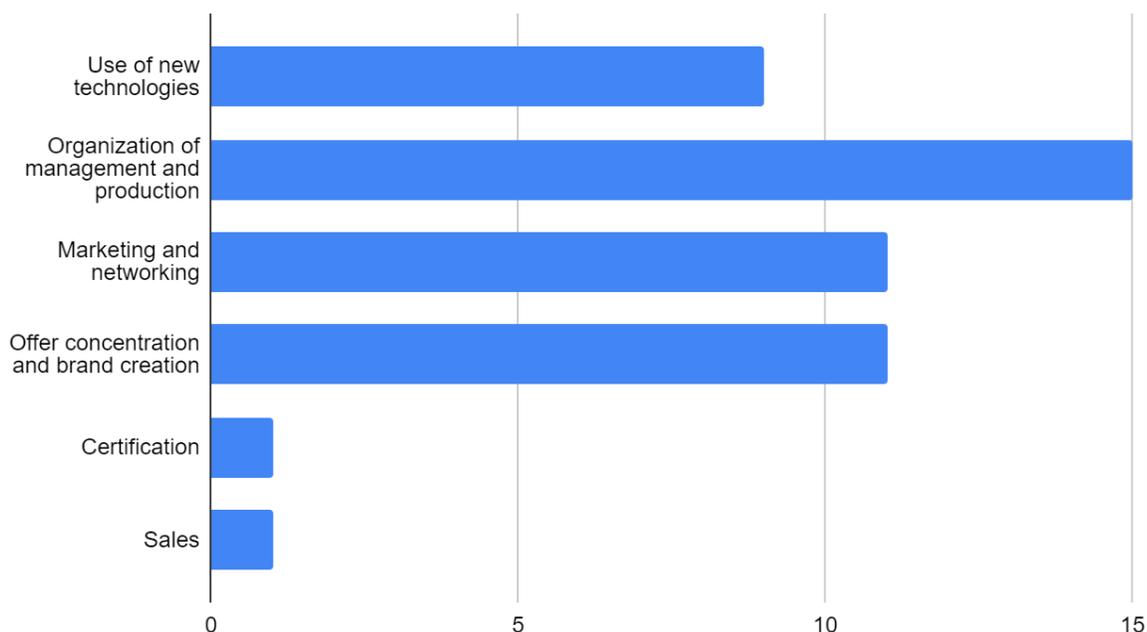


Figure 18. Non-crop information that the participants might be interested in.

7.5. Actions that the participants would like to be contacted for

- The participants would like to be contacted mainly for training activities, workshops and other events, receive the project infosheet, as well as news and project outputs (Figure 19).

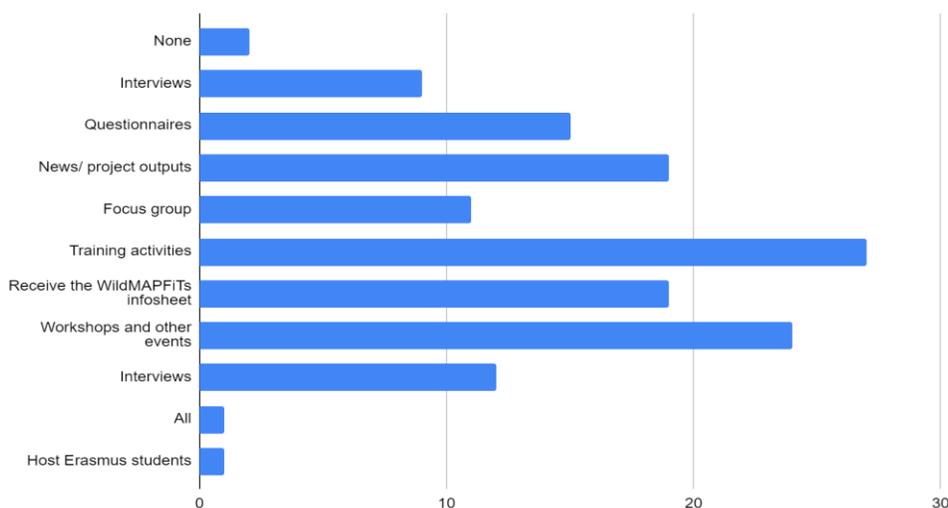


Figure 19. Actions that participants want to be contacted.

1.3. Questionnaire report – Çanakkale Onsekiz Mart University (COMU) (Turkey)

1. Profile of participants answered the questionnaire

- In the current research 82 individuals (48 on line / 34 face to face) answered the questionnaire. In this report only the 48 online responses have been included. From those, 27,08 % were females, 72,92% were males (Figure 1).

Gender of participants

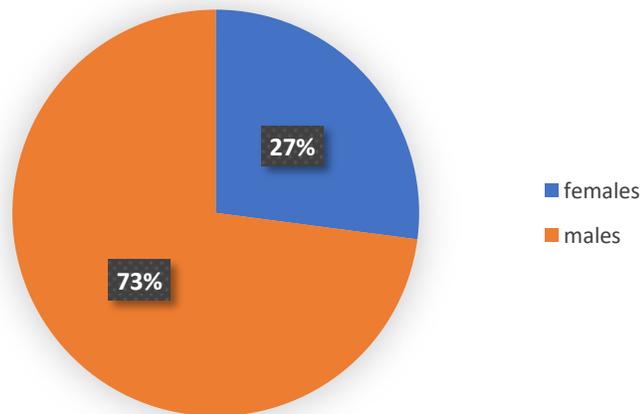


Figure 1. Gender of participants.

- 72.25% of the participants were between 45-64 years old, followed by those that were between 25-44 years old (27,75%) (Figure 2).

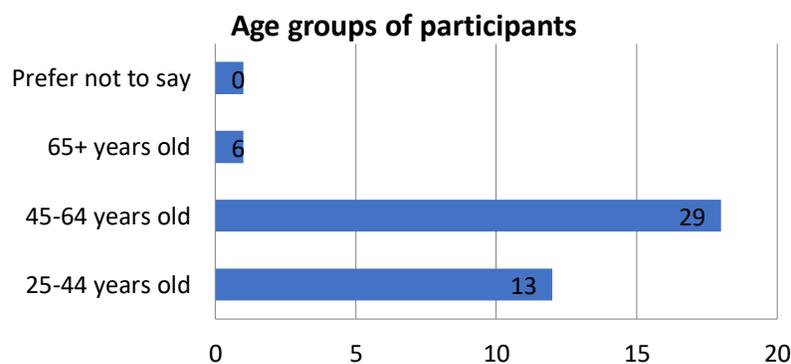


Figure 2. Age groups of the participants filled out the questionnaire.

- The educational background of the participants varied. The majority of the survey participants were university graduates (31.32 %), followed by those having Ph.D. degrees (31.0 %) and secondary or previous education (12.5 %), while 25 % of the participants had a MSc. degree (Figure 3).

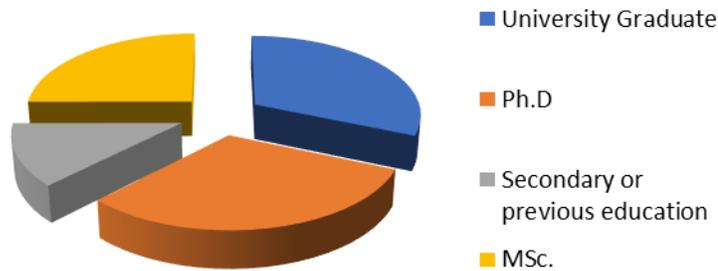


Figure 3. The educational background of the participants.

- Have you received any professional training in the collection, production and processing of medicinal and aromatic plants (TAB)?

Have you received any professional training in the collection, production and processing of medicinal and aromatic plants (MAP)?

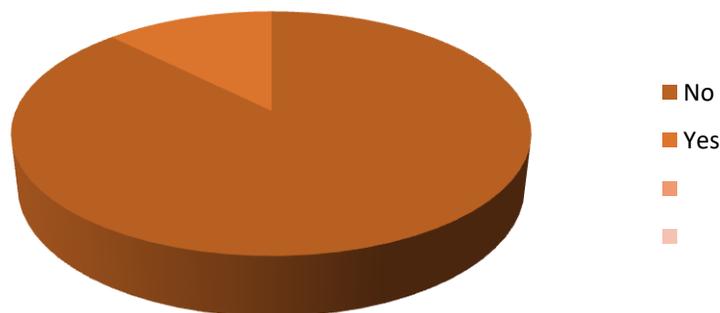


Figure 4. The responses of the participants on the professional training of medicinal and aromatic plants (MAPs).

- 12,5 % of the participants answered yes, 87,5 5% of them said no to the question of whether they had received any professional training on the collection, production and processing of medicinal and aromatic plants (MAPs).

- Most of participants were natural collectors (45,8 %), followed by MAPs breeders, manufactures of MAP-based products (18.8%), and primary processors (8,3 %).

What is your basic relationship with Medicinal and Aromatic Plants (MAPs)?

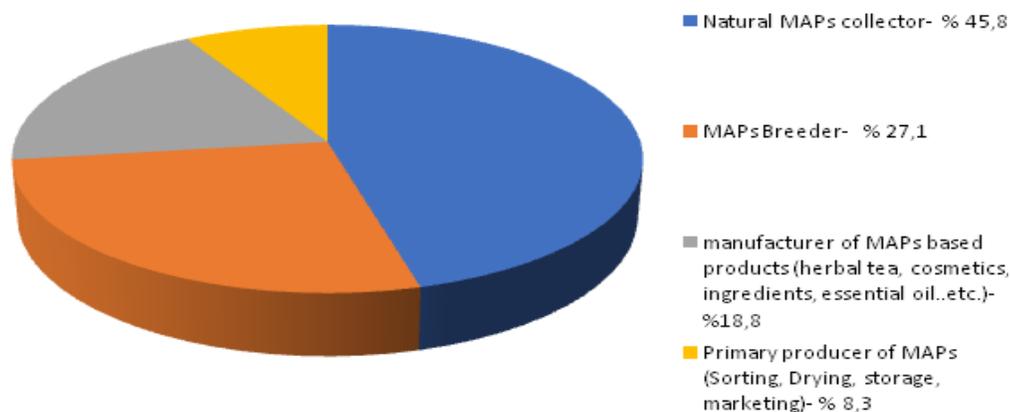


Figure 5. The basic relationship with Medicinal and Aromatic Plants (MAPs) of Turkish questionnaires?

2. Training

2.1. Training that the participants have already received

- Most of the participants (66 out of 82) have not received professional training in collection, production, and processing of MAPs (Figure 6).

Training of MAPs

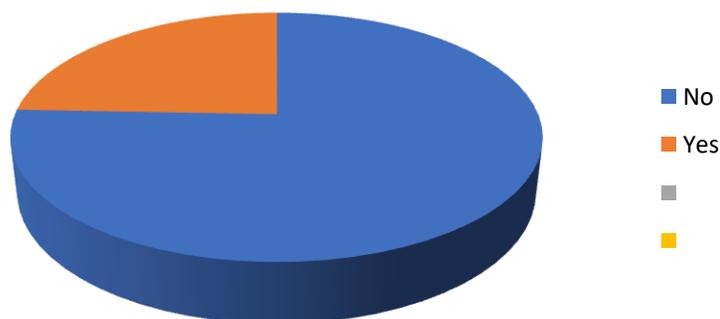


Figure 6. Percentage of participants who have received professional training in collection, production, and processing of MAPs.

- Table 1 shows the type of training that the 20 out of 82 participants have already received. Most of the participants have received training in MAPs growing, harvesting,

processing, and drying. 20 people who received training mostly on growing and harvesting medicinal and aromatic plants.

Table 1. Training that has already been received by the participants.

Training	Responses
Growing, harvesting, processing, and drying of MAPs	11
Propagation	1
Herbal Medicine	3
Good agricultural and collection practice (GACP)	2
Growing organic	1
Packaging of fresh herbs	2

2.2. Training that the participants would like to receive

2.2.1. Practices that the participants would you like to learn through training on MAPs

- As it is seen in Table 2, the topics that the participants are interested in receiving training are i) Other post-harvest activities (i.e., hydro-distillation, compounds' extraction, and/or MAP based products manufacturing), ii) production of MAPs, iii) wild collection, and iv) primary processing.

Table 2. Training that the participants would like to receive.

Training	Responses
Other post-harvest activities (hydro-distillation, compounds' extraction, and/or MAP based products manufacturing)	23
Production of MAPs (growing own herbs)	25
Wild collection	6
Primary processing (on-farm drying, freezing, storage)	9
Seed saving	7
I would like to help create a network of small scale native wild plant nurseries - so that we can all supply our own local communities and to minimize plants being taken from the wild	3

native species for ecosystems restoration including many herbs	2
product safety and testing / Legislation/ regulatory framework/ marketing	4
None	3

2.2.2. Subject might be of your interest to know in-depth?

- As it is seen in Table 3, subjects that the participants are most interested in knowing in depth are i) sustainable wild collection, ii) renewable energies and by-product valorisation, iii) transformation, iv) post-harvest processing, v) harvesting of raw materials and use, and vi) packaging and storage.

Table 3. Training in-depth that the participants would like to receive.

Subject Interest	Responses
Sustainable wild collection (methodology, legislation, control...)	9
Renewable energies and by-product valorization	3
Transformation (hydro-distillation, extraction processes...)	8
Post-harvest processing (drying process, preservation...)	11
Harvesting of raw materials and use	9
Packaging and storage	10
New application technologies (management tools & analytics...)	5
Good Agricultural and Collection Practices (GACP)	7
Basics of plant science with emphasis on MAPs	3
Marketing and business	7
Farm machinery and equipment	3
Agricultural practices,	3
Digital technologies (GPS, GIS...)	5
Communication and marketing tools	3
Product safety / testing legislation/ regulation	1
funding application support	1

Others (i.e., alternative uses other than your very limited alternative uses, create a network of small scale native wild plant)	3
--	---

3. Collecting MAPs

3.1. Type of wild Medicinal & Aromatic Plants that are collected in participants' area

- As it can be seen in the MAPs in Table 4 the wild MAPs that are collected in participants' area are trees, bushes, and herbs. Table 5 shows the common names of some MAPs most collected in Ireland.

Table 4. Type of wild Medicinal & Aromatic Plants collected in participants' area.

Type of wild Medicinal & Aromatic Plants	Responds
Trees (Linden, Allspice, Bay (Laurel), Elderberry, Tilia spp., etc.)	23
Bushes (Honeysuckle, Blackberry, Rosehip, Juniper, etc.)	27
Herbs (Rosemary, rosehip Anise, Basil, Chamomile, Mint, Thyme, Oregano, Lavender, etc.)	15

Table 5. Common names of some MAPs most collected.

<p>Turkish surveyors stated the following as the most collected medicinal and aromatic plants.</p> <p>Rosemary, Thyme, anise, mint, Poppy, cumin, saffron, fennel, coriander, mint, basil, black cumin, fenugreek, paprika, oil rose, tea, bitter melon and hops, echinacea, caper, thyme, lavender, chamomile, nettle, hemp, mahaleb, bearberry...etc.</p>

3.2. When and how long is the usual harvest period?

- 28 out of 82 participants answered this question.
- April to October seems to be the harvesting period for MAPs in Turkey.

3.3. What is the approximate area dedicated to wild harvest?

- 42 out of 52 respondents answered this question.
- The dedicated area to wild harvest (mostly from forests) in Turkey varied between 0.1 to 300 ha (Figure 7).

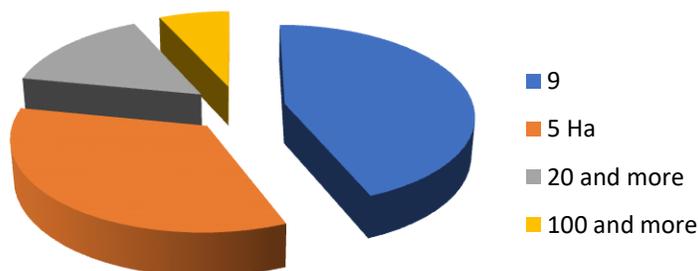


Figure 7. Dedicated area to wild harvest in Turkey.

3.4. What quantity of wild MAPs do you harvest?

- 48 out of 82 participants answered this question.
- 9 participants from different areas of Turkey answered that he harvests approximately 100 kg from forests, while the rest of the participants harvest between 5 to 25kg (Figure 8).

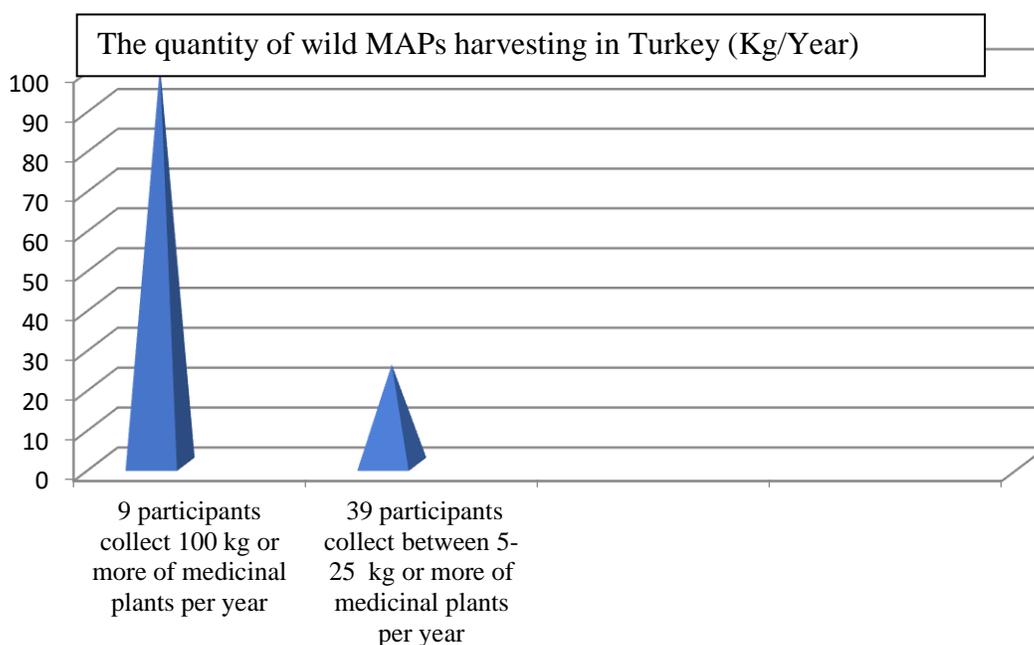


Figure 8. The quantity of wild MAPs harvesting in Turkey (Kg/Year).

4. Growing MAPs

4.1. Which is the most important Medicinal & Aromatic Plant(s) of your farm and what is the total area dedicated to MAPs production?

- Table 7 shows the most important MAPs grown in the participants' farms in Turkey and their total production area.
- Most of the participants grow culinary vegetables such as parsley, coriander, basil, etc.
- Some of the participants also grow wild MAPs such as nettles, wild garlic, plantain, and cleaves.

Table 7. The most important Medicinal & Aromatic Plant(s).

MAPs	Total area (ha)
Mint	0.25
Culinary herbs (basil, Parsley)	0.25
Thyme, dill, rosemary, nettle, sage, linden, basil,	0.25

- The answer given by 82 participants to the question of "are you an organic producer" was mostly no (85%). 15% of the answers from mountainous villages say yes.

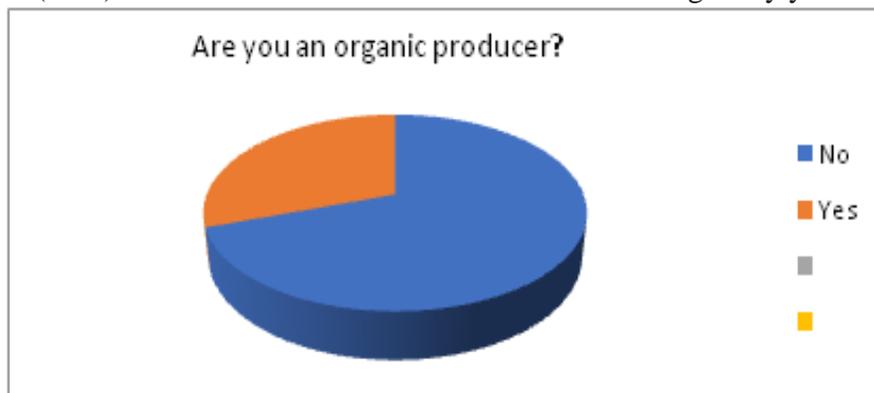


Figure 9. Percentage of producers grown organic in Turkey.

5. MAPs processing

5.1. Type of MAPs raw material that is most requested for participants work

- 52 answers were given to this question and 65 % of the participants used fresh raw materials, while 35 % of the participants used dried (Figure 11).
- Around 25 % of the participants process the MAPs raw material to produce essential oils (Figure 10).

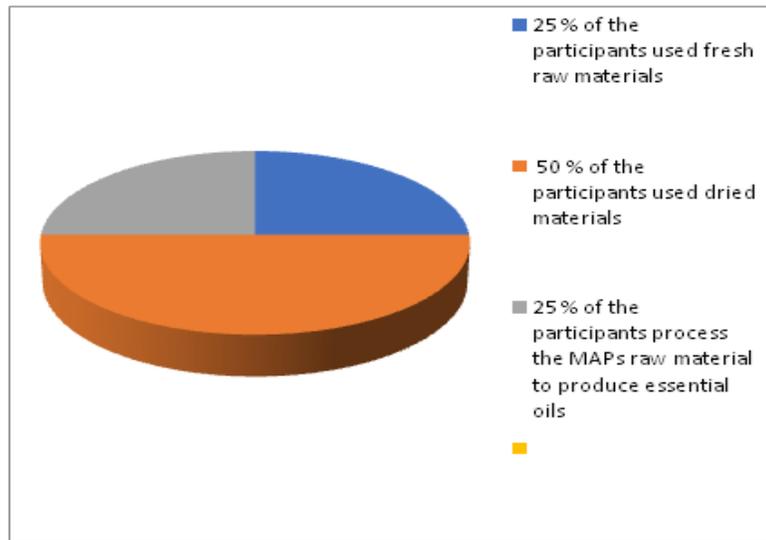


Figure 10. Type of MAPs raw material that is most requested for participants' work.

5.2. Would you consider drying as an essential step for MAPs preservation?

- 88 % of the participants consider drying as an essential step for MAP's preservation (Figure 11).

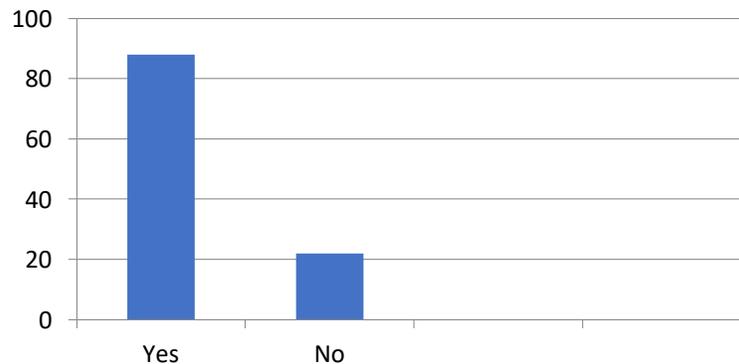


Figure 11. Percentage of participants that would or would not consider drying as an essential step for MAP's preservation.

5.3. Would you describe drying as a complex or expensive system for MAPs distribution?

- This question was answered by 56 pollsters. 75.2% of the participants would not describe drying as either complex or expensive for MAPs distribution in Turkey.
- 24,8 % would describe drying as complex and expensive for MAPs distribution (Figure 12).

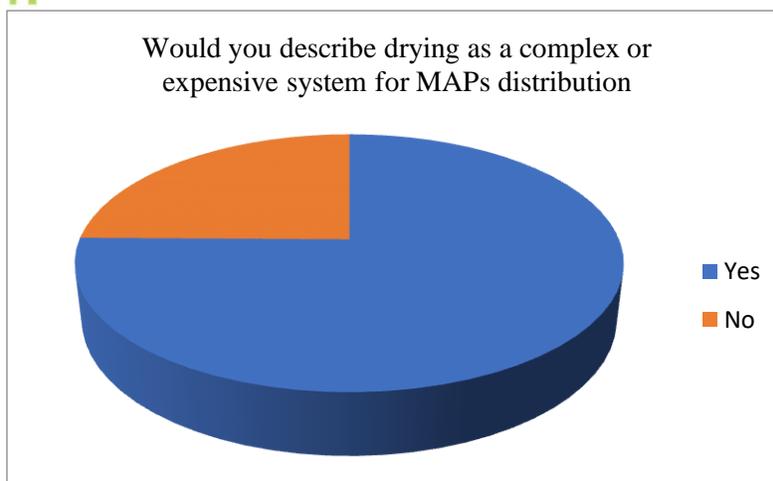


Figure 12. Percentage of participants that would describe drying as a complex or expensive system for MAPs distribution.

6. MAPs market

6.1. Which is your main target customer and that is the main type of sales format do you use?

- 78 participants answered this question. The main target consumers are local trade and followed by wholesale and consumers (Figure 13).
- The main type of sale format used by the participants is dried unit/s packaging, followed by fresh plants and bulk packaging and (Figure 14).



Figure 13. Main target customers.

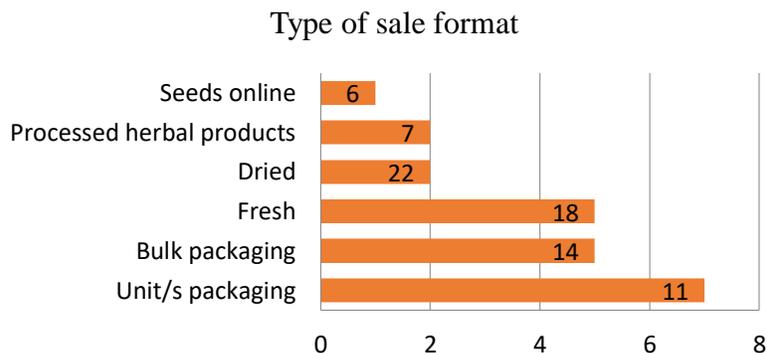


Figure 14. Type of sale format.

7. MAPs tools and knowledge

7.1. Do you use any modern technological tools when collecting/producing MAPs?

68 of 82 participants answered this question.

- Technologies such as weather data, GPS, plant identification apps are used when collecting/producing MAPs in Turkey (Figure 15).
- However, most of the participants do not use any modern technological tool when collecting MAPs (Figure 15).

Modern technological tools for collecting/producing MAPs

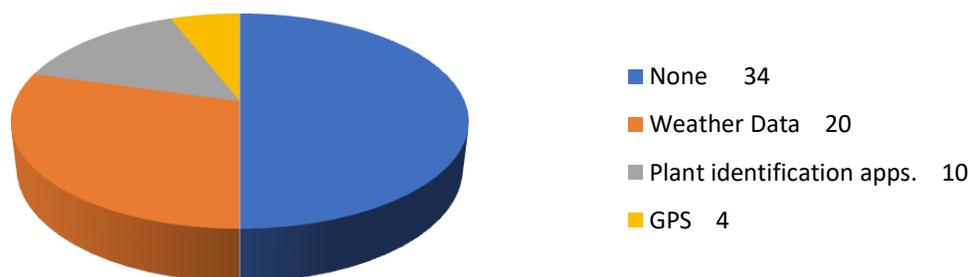


Figure 15. Modern technological tools for collecting/producing MAPs.

7.2. For what kind of collecting and/or producing activity would you like to use digital or online tools?

- Table 8 shows the types of collecting and/or producing activities that the participants would like to use digital or online tools for.

Table 8. Type of collecting and/or producing activity that the Turkish participants would like to use digital or online tools for

Marketing-sales	GPS for planting
Weather data	Identification, agricultural practices

Analysis for quality control	Product certification
Growing	Network of small scale wild native plant & medicinal/useful plants nursery

7.3. What other non-crop specific information might interest you?

- The 70 of 82 participants answered this question.
- Participants would be interested in learning about i) using new technologies, ii) organization and management of production, iii) marketing and networking, as well as iv) offer concentration and brand creation (Figure 16).

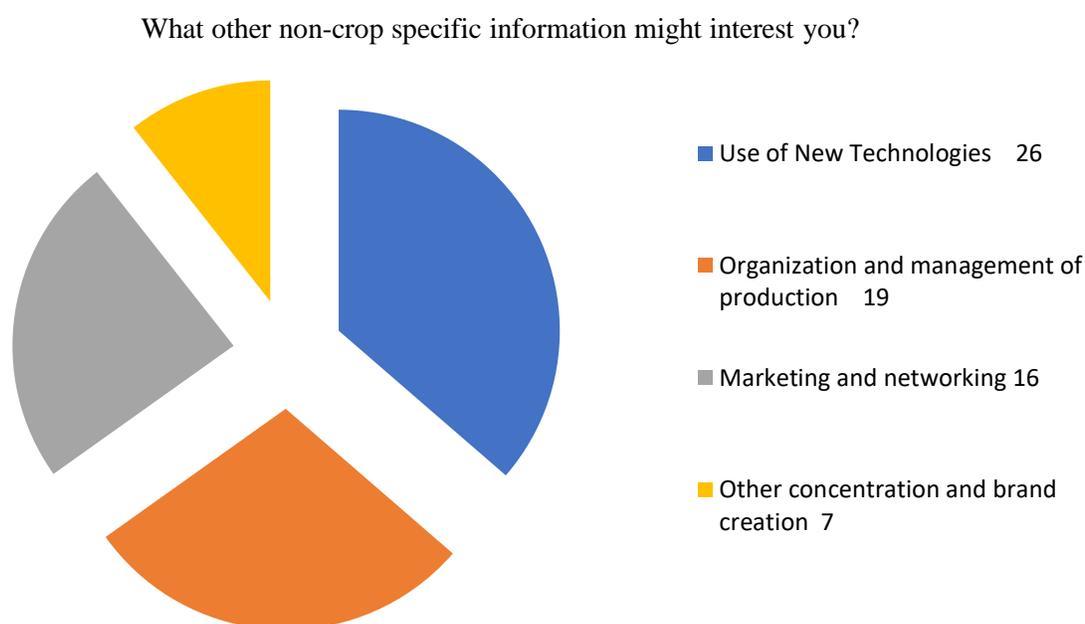


Figure 16. Non-crop information that the participants might be interested in.

7.4. Actions that the Turkish participants would like to be contacted for

- The 80 of 82 participants answered this question.
- The participants would like to be contacted for webinars, workshops, training, as well as to receive the wildmapsfit info sheet.

- **A brief assessment for Turkish participants**

- A total of 82 people from Turkey participated in the project needs assessment survey. The surveys were conducted online and face-to-face (Hybrid). 72.91% of Turkish participants

are male and 27.08% are female. 72.25% of the participants were in the 45-64 age range, followed by the 25-44 age groups.

- The educational background of the participants varies. The majorities of the respondents were university graduates (31.32%), followed by those with a doctorate degree (31.0%), and followed by those with secondary or primary education, respectively. (12.5%) while 25% of the participants have a master's degree.
- Although a significant part of the participants have different professions, they are engaged in entrepreneurial or hobby agriculture, growing and marketing of medicinal and aromatic plants. There are a small number of product processors among the exhibitors. The vast majority of Turkish participants did not receive any training on medicinal and aromatic plants (%87,5).
- Most of the Turkish participants are interested in the fields of medicinal and aromatic plant cultivation and post-harvest processing and evaluation.
- The majority of Turkish participants are interested in areas such as good agricultural and collection practices, post-harvest processing, drying, and the use of new technologies in raw material harvesting.
- A significant number of participants are associated with medicinal and aromatic plants as natural collectors. Most of them are realized through shrub plants and trees.
- Turkish participants mostly focused on sage, thyme, rose hip and linden. However, they also have relations with other medicinal and aromatic plants.
- The vast majority of the participants are dealing with an average of 7 plants.
- The participants pointed to the April-October interval for the harvest period and duration and stated that the harvest took place in 4-5 weeks on average.
- Survey participants obtain an average of 2-25 kg of medicinal and aromatic plants per year on an area of less than 5 acres.
- Among the participants, those who produce more than one different plant in their enterprise are in the majority. The majority of the participants cannot make organic production due to the conditions.
- A significant part of the participants understood the importance of drying and processing and stated that they were in this direction in their demands.

- The vast majority of Turkish interviewers evaluate the medicinal and aromatic plants they obtain through local trade, and they state that they do this primarily through social networks as dried and fresh.
- The vast majority of Turkish surveyors use weather data and plant recognition applications for the natural medicinal and aromatic plants they obtain. However, they also have a strong need for recognizing and applying new technologies and creating brands.
- Turkish participants want to participate in the training activities of the project and in this context, benefit from the webinar and the project e-learning page.

1.4. Questionnaire report – Hellenic Agricultural Organisation – Demeter (Greece)

1. Profile of participants answered the questionnaire

- In the current research 29 individuals answered the questionnaire. From those, 58.6% were females, and 41.4% were males (Figure 1).

Φύλο
29 responses

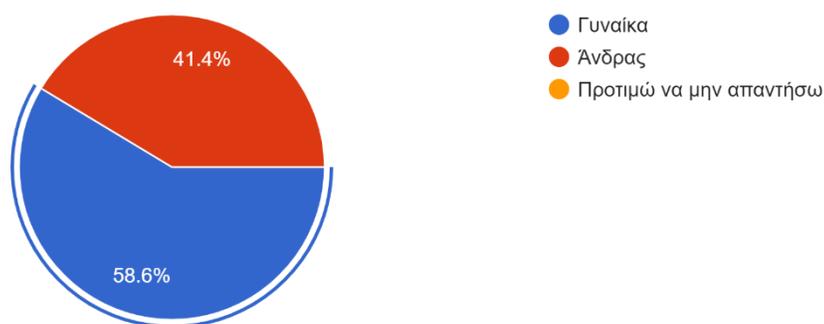


Figure 1. Gender of participants.

- 50% of the participants were between 45-64 years old, while 50% of the participants were between 25-44 years old (Figure 2).

Age groups of the participants filled out the questionnaire

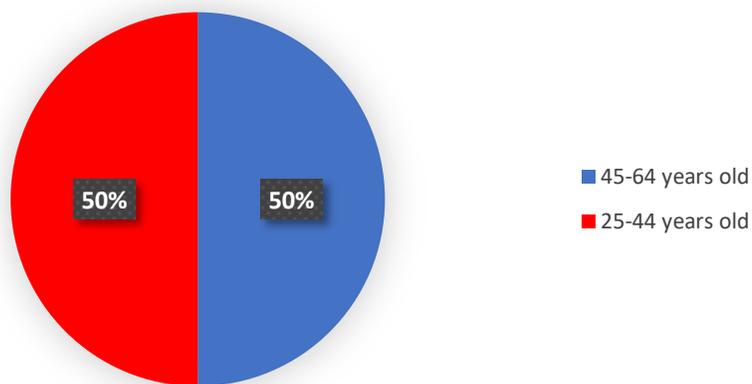


Figure 2. Age groups of the participants filled out the questionnaire.

- The educational background of the participants varied. 37.9% of the applicants had a MS or PhD degree, followed by those with a Bachelor degree 37.9%, while 24.1% of the participants had a secondary education (Figure 3).

Επίπεδο εκπαίδευσης
29 responses

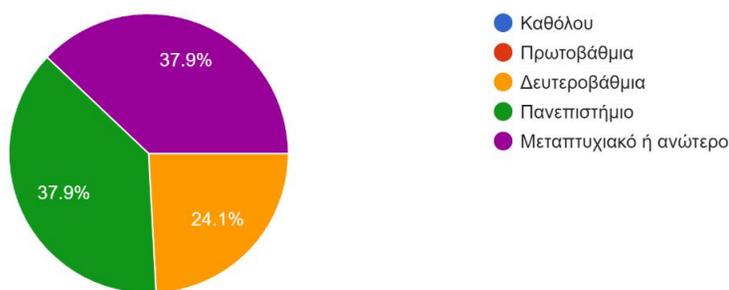


Figure 3. Educational level of the participants.

- Most of participants were collectors of MAPs (37.9%), followed by Manufacturers of MAP-based products (34.5%), producers of MAPs (20.7%), and processors (6.9%) (Figure 4).
- 34.5% of the participants use the collected harvest MAPs for commercial purposes (Figure 5).

Ποιά είναι η σχέση σας με τα Αρωματικά και Φαρμακευτικά Φυτά (ΑΦΦ);

29 responses



Figure 4. Relation of the participants with Medicinal & Aromatic Plants (MAPs)

Ποιά είναι η σχέση σας με τα Αρωματικά και Φαρμακευτικά Φυτά (ΑΦΦ);

29 responses

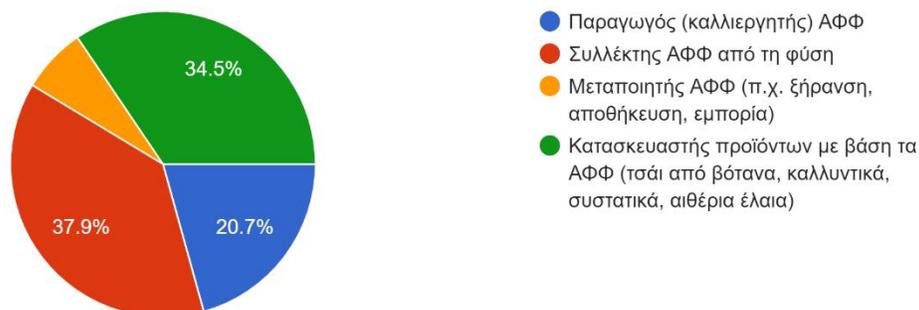


Figure 5. Purpose of collected/harvested MAPs.

2. Training

2.1. Training that the participants have already received

- Most of the participants (68,97%) have not received professional training in collection, production, and processing of MAPs (Figure 6).

Professional training

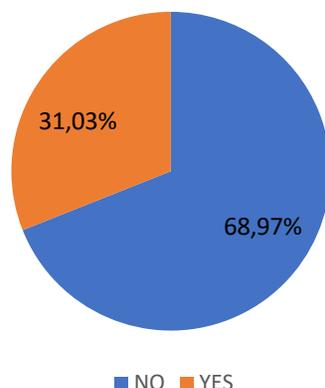


Figure 6. Percentage of participants who have received professional training in collection, production, and processing of MAPs.

- Table 1 shows the type of training that the participants have already received. Most of the participants have received training in growing, harvesting, processing, and drying of MAPs.

Table 1. Training that has already been received by the participants.

Training	Responses
Growing, harvesting, processing, and drying of MAPs	7
Propagation	-
Herbal Medicine	-
Good agricultural and collection practice (GACP)	-
Growing organic	1
Packaging of fresh herbs	1

2.2. Training that the participants would like to receive

2.2.1. Practices that the participants would like to learn through training on MAPs

- As it is seen in Table 2, the topics that the participants are interested in receiving training are i) Other post-harvest activities, ii) Primary processing, iii) Wild collection, and iv) Production of MAPs.

Table 2. Training that the participants would like to receive.

Training	Responses
Production of MAPs (growing own herbs)	15
Wild collection	20
Primary processing (on-farm drying, freezing, storage)	23
Other post-harvest activities (hydro-distillation, compounds' extraction, and/or MAP-based products manufacturing)	23
None	1
Research	1
Marketing	1

2.2.2. Subject might be of your interest to know in-depth?

As it is seen in Table 3, the subjects that the participants are interested in knowing in depth are i) Primary processing, ii) Other post-harvest activities (hydro-distillation, compounds' extraction, and/or MAP-based products manufacturing), iii) Wild collection , iv) Production of MAPs, v) Marketing, and vi) Research.

Table 3. Training that the participants would like to receive.

Subject of interest	Responses
Sustainable wild collection (methodology, legislation, control...)	20
Renewable energies and by-product valorisation	7
Transformation (hydro-distillation, extraction processes...)	23
Post-harvest processing (drying process, preservation...)	19
Harvesting of raw materials and use	16
Packaging and storage	18

New application technologies (management tools & analytics...)	12
Good Agricultural and Collection Practices (GACP)	16
Basics of plant science with emphasis on MAPs	19
Marketing and business	11
Farm machinery and equipment	5
Agricultural practices,	12
Digital technologies (GPS, GIS...)	11
Communication and marketing tools	13
Knowledge, identification of MAP species	24

3. Collecting MAPs

3.1. Type of wild Medicinal & Aromatic Plants that are collected in participants' area

- As it is seen in Table 4, the wild MAPs that are collected in participants' area are herbs. Table 5 shows the common names of some MAPs most collected in Greece.

Table 4. Type of wild Medicinal & Aromatic Plants (MAPs) collected in participants' area.

Type of wild Medicinal & Aromatic Plants	Responses
Trees (Allspice, Bay (Laurel), Elderberry, Mastic tree, Tilia spp., etc.)	6
Bushes (Honeysuckle, Rosehip, Juniper, Abelia, etc.)	7
Herbs (Anise, Basil, Chamomile, Mint, Thyme, Oregano, Lavender, etc.)	11

Table 5. Common names of some MAPs most collected.

Oregon, Thyme, Mint, Chamomile, Salvia, Lavender.

3.2. How many different medicinal plant species do you collect?

- 11 participants answered this question. The number of species collected varied among the different participants from 2 to 20.

Πόσα διαφορετικά είδη φαρμακευτικών φυτών συλλέγετε;

11 responses

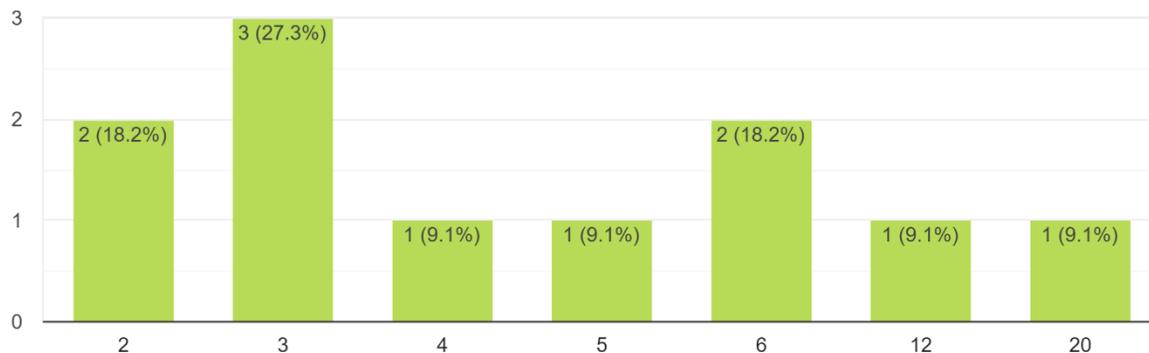


Figure 7. Number of species collected in Greece.

3.3. When and how long is the usual harvest period?

- 11 participants answered this question.
- June to September seem to be the main harvesting period for MAPs in Greece (Table 6).

Table 6. Harvesting period in Greece. (The table is an example)

Response	Period
1	June
1	July to October
1	May to September
1	April to August
1	July to August
5	June to September
1	All the year

3.4. What is the approximate area dedicated to wild harvest?

- 11 participants answered this question.
- The dedicated area to wild harvest in Greece varied between 1 to 3 ha.

Ποια είναι η κατά προσέγγιση έκταση που αφιερώνεται στη συλλογή από τη φύση;

11 responses

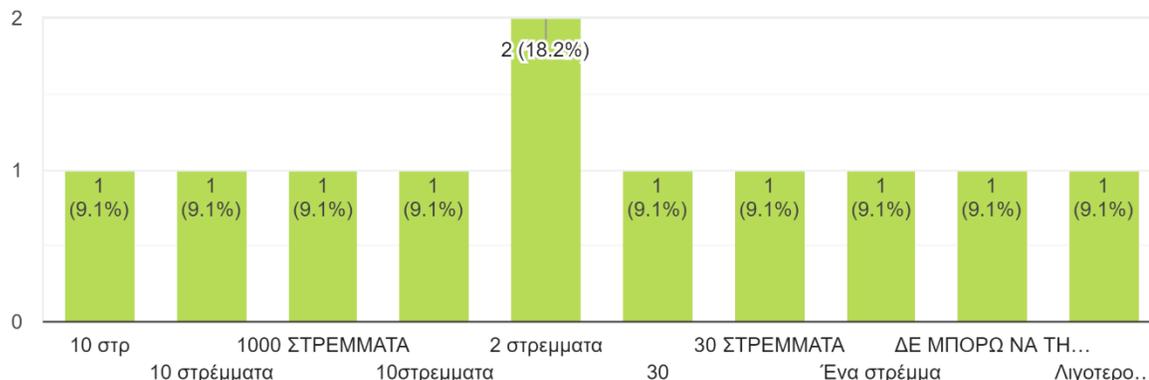


Figure 8. Dedicated area to wild harvest in Ireland.

3.5. What quantity of wild MAPs do you harvest?

- 11 participants answered this question.
- 9 participant/s answered that they harvest approximately 4 kg, while the rest of the participants harvest 1 -50 kg.

4. Growing MAPs

4.1. Which is the most important Medicinal & Aromatic Plant(s) of your farm and what is the total area dedicated to MAPs production?

- Table 7 shows the most important MAPs grown in the participants' farms in Greece and their total production area.
- Most of the participants grow Origanum.
- Some of the participants also grow wild MAPs such as Salvia, Thymus, Lavandula, *Sideritis scardica*.

Table 7. The most important Medicinal & Aromatic Plant(s). (The table is an example please modify the table based on your questionnaire)

MAPs	Total area (ha)
Lavandula	1.1
Sideritis scardica	2
Rosa canina	0.1
Origanum	1.5
Salvia	0.7
Thymus	0.7
Origanum, Satureja, Lavandula, Melissa, Mentha, Salvia, Rosmarinus	0.4

Είστε παραγωγός βιολογικών ΑΦΦ ;

6 responses

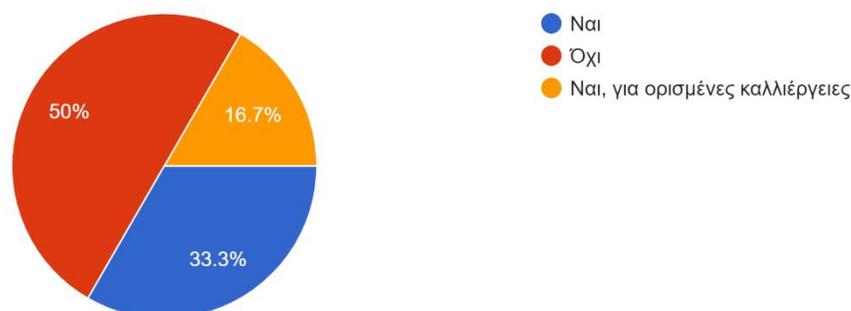


Figure 9. Percentage of producers grown organic.

5. MAPs processing

5.1. Type of MAPs raw material that is most requested for participants work

- 58.6% of the participants use dry, while 24% of the participants use fresh raw material (Figure 10).

Τι είδους πρώτη ύλη MAPs ζητείται περισσότερο από εσάς ή από αυτούς με τους οποίους συνεργάζεστε;

29 responses

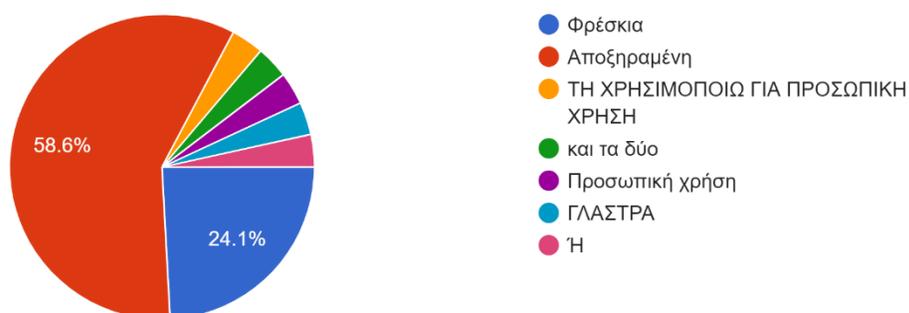


Figure 10. Type of MAPs raw material that is most requested for participants' work.

5.2. Would you consider drying as an essential step for MAPs preservation?

- 100% of the participants consider drying as an essential step for MAP's preservation (Figure 11).

Θα θεωρούσατε την ξήρανση ως ουσιαστικό βήμα για τη διατήρηση των ΑΦΦ;

29 responses

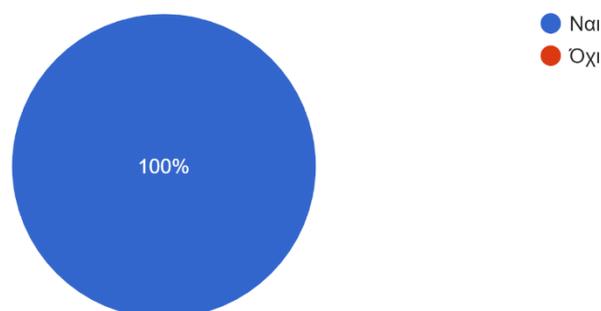


Figure 11. Percentage of participants that would or would not consider drying as an essential step for MAP's preservation.

5.3. Would you describe drying as a complex or expensive system for MAPs distribution?

- 31% of the participants would describe drying either complex or expensive for MAPs distribution.
- 17.2% would describe drying as complex method for MAPs distribution (Figure 12).

Θα περιγράφατε την ξήρανση ως μια πολύπλοκη ή ακριβή μέθοδο για τη διανομή των ΑΦΦ;

29 responses

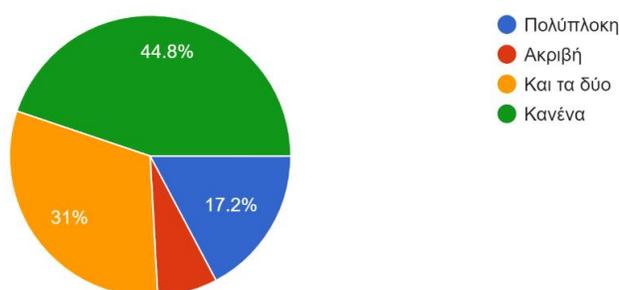


Figure 12. Percentage of participants that would describe drying as a complex or expensive system for MAPs distribution.

6. MAPs market

6.1. Which is your main target customer and what is the main type of sales format you use?

- The main target consumers are local trade, followed by consumers (Figure 13).
- The main type of sale format used from the participants is dried, followed by unit packaged and bulk (Figure 14).

Ποιος είναι ο κύριος πελάτης-στόχος σας;

10 responses

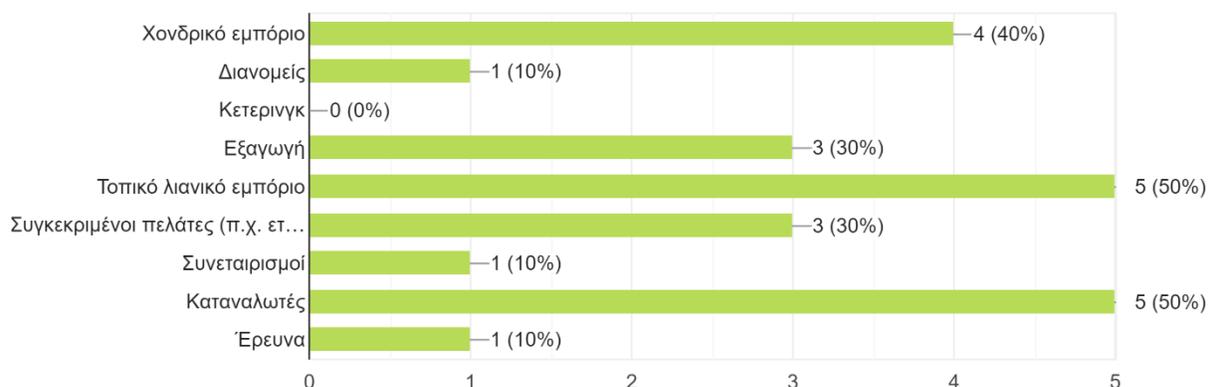


Figure 13. Main target customers.

Ποια είναι η κύρια μορφή των προϊόντων που πουλάτε;

10 responses

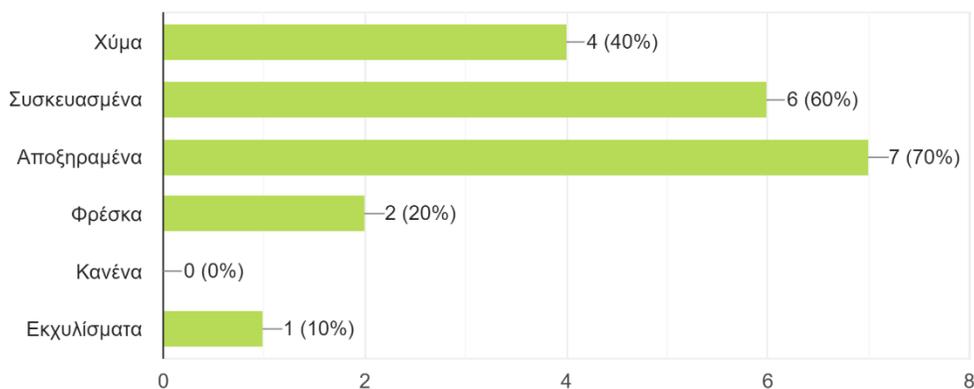


Figure 14. Type of sale format.

7. MAPs tools and knowledge

7.1. If you use any communication and marketing tools to show your work or to connect with potential consumers, which do you use?

- 19 out of 29 participants use more than one marketing tool to show their work and to connect with consumers (Figure 15).
- Web is the most frequent response regarding this question, followed by social media, and food exhibition fairs (Figure 15).

Εάν χρησιμοποιείτε εργαλεία επικοινωνίας και μάρκετινγκ για να προωθήσετε τα προϊόντα σας ή για να συνδεθείτε με πιθανούς καταναλωτές, ποια χρησιμοποιείτε;

29 responses

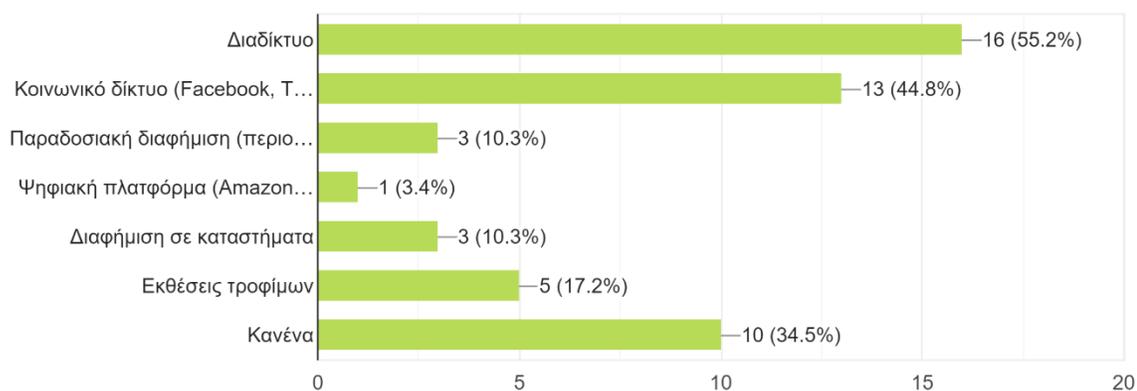


Figure 15. Type of sale format.

7.2. Do you use any modern technological tools when collecting/producing MAPs?

- Technologies such as plant identification applications, weather & climate data, GPS technology are mainly used when collecting/producing MAPs in Greece (Figure 16).
- However, most of the participants do not use any modern technological tool when collecting MAPs (Figure 16).

Χρησιμοποιείτε σύγχρονα τεχνολογικά εργαλεία όταν συλλέγετε / καλλιεργείτε ΑΦΦ;

29 responses

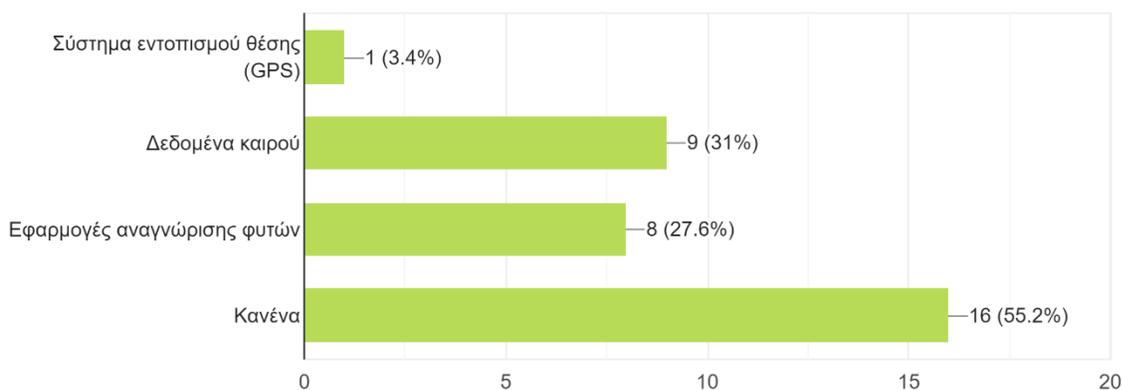


Figure 16. Modern technological tools for collecting/producing MAPs.

7.3. For what kind of collecting and/or producing activity you would like to use digital or online tools?

- Table 8 shows the types of collecting and/or producing activities that the participants would like to use digital or online tools for.

Table 8. Type of collecting and/or producing activity that the participants would like to use digital or online tools for.

Activity	Responses
Plant identification	7
Disease identification	3
Promotion	3
Don't know	1

7.4. What other non-crop specific information might interest you?

- Participants would be interested in learning about i) use of new technologies, ii) marketing and networking, iii) product organization and management, as well as iv) branding (Figure 17).

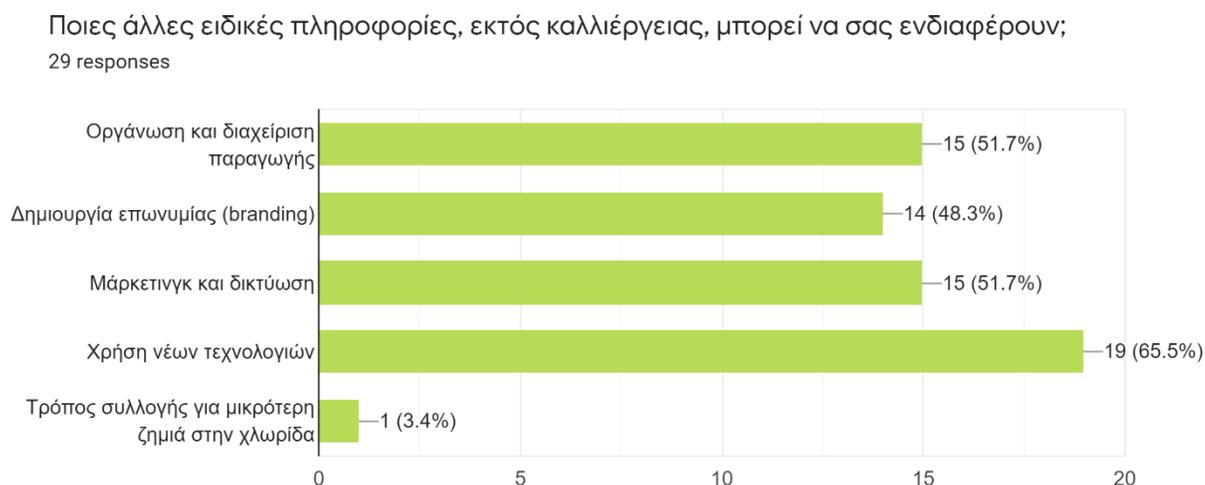


Figure 17. Non-crop information that the participants might be interested in.

7.5. Actions that the participants would like to be contacted for

- The participants would like to be contacted for webinars, workshops and other events, training activities, new project outputs, and WildMAPsFit infosheet.

1.5. Questionnaire report – EUROSUD (Italy)

1. Profile of participants answered the questionnaire

- In the current research 6 individuals answered the questionnaire. From those, 33,3% were females, 66,7% were males. (Figure 1).

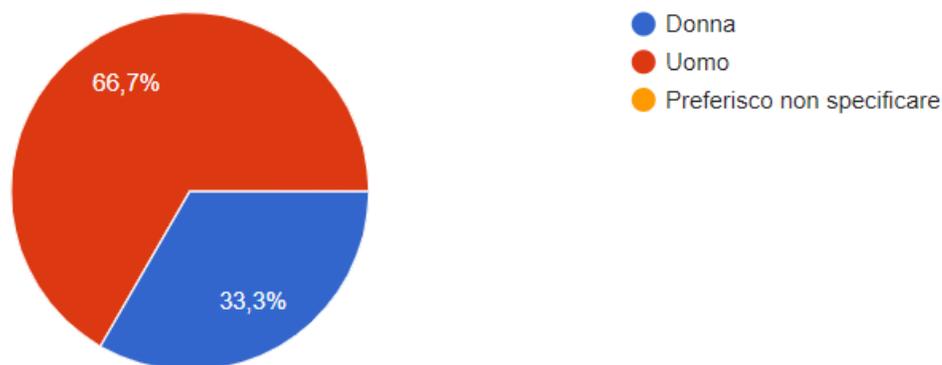


Figure 1. Gender of participants.

- 33,3% of the participants are 45 years old, followed by those that are 26, 35,52 and 55 year old (16,7% each) (Figure 2).

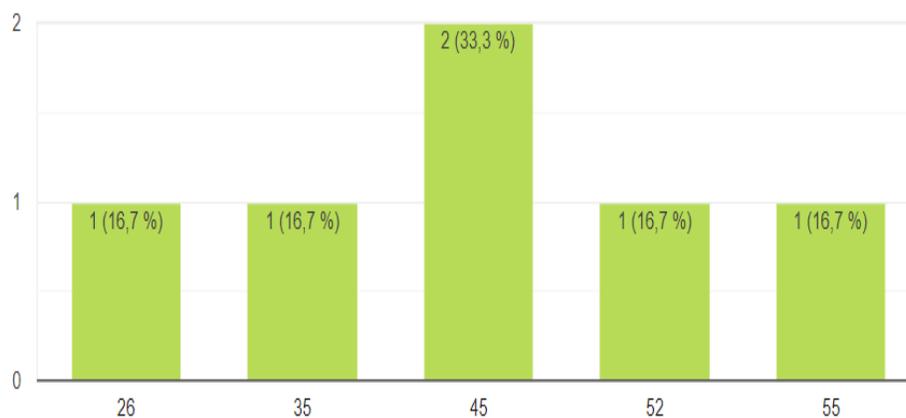


Figure 2. Age of the participants filled out the questionnaire.

- The educational background of the participants varied. The majority of the applicants had a bachelor’s degree or equivalent (50 %), followed by those having a secondary or previous education (33,3 %) while 16,7 % of the participants had a doctoral degree. No participants were registered with Master’s degree or equivalent. (Figure 3)

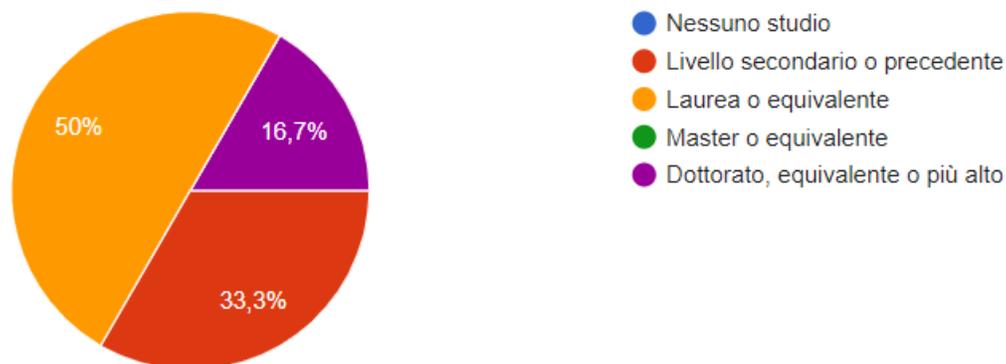


Figure 3. Educational level of the participants.

- Equal number of participants were producers (33,3%), collectors of MAPs (33,3%), and manufactures of MAP-based products (33,3%). (Figure 4), while 66,7% of the participants do not use the collected harvest MAPs for commercial purposes (Figure 5).

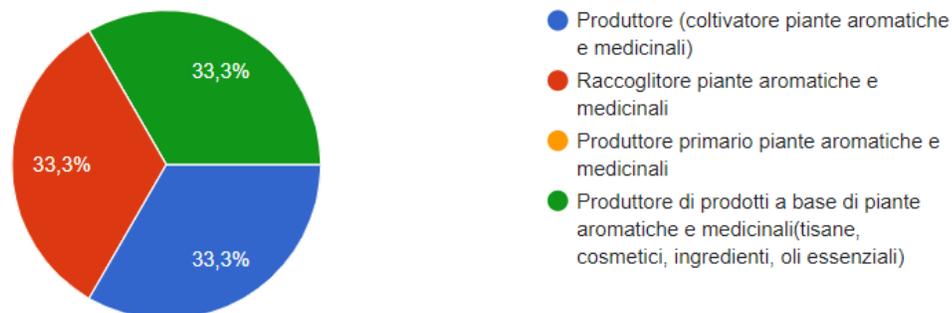


Figure 4. Relation of the participants with Medicinal & Aromatic Plants (MAPs)

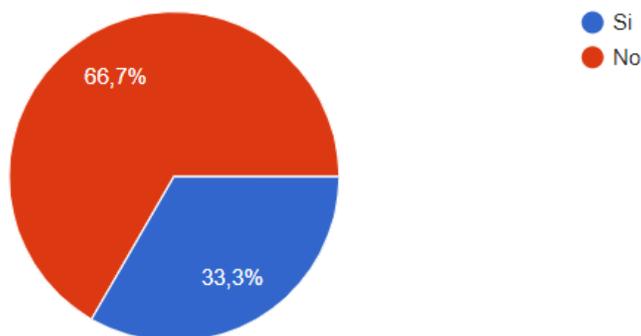


Figure 5. Purpose of collected/harvested MAPs.

2. Training

2.1. Training that the participants have already received

- Most of the participants (66,7% or 4 out of 6 answers) have not received professional training in collection, production, and processing of MAPs (Figure 6).

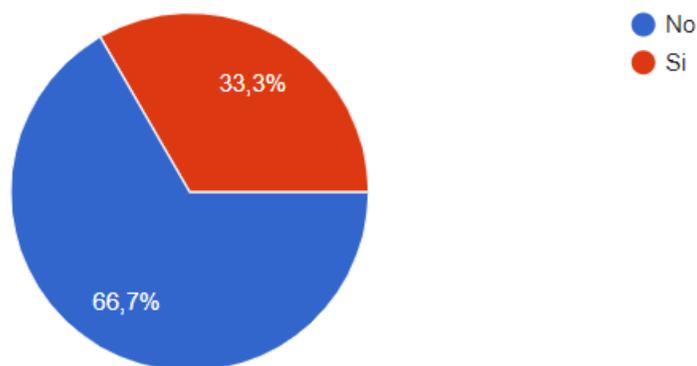


Figure 6. Percentage of participants who have received professional training in collection, production, and processing of MAPs.

- Table 1 shows the type of training that the 9 out of 32 participants have already received. Most of the participants have received training in MAPs growing, harvesting, processing, and drying.

Table 1. Training that has already been received by the participants.

Training	Responses
Land preparation for the cultivation of aromatic plants and soil	1
Online course organized by the Italian Federation of Officinal Plant Producers.	1

2.2. Training that the participants would like to receive

2.2.1. Practices that the participants would you like to learn through training on MAPs

- As it is seen in Table 2, the topics that the participants are interested in receiving training are i) Other post-harvest activities (i.e., hydro-distillation, compounds' extraction, and/or MAP based products manufacturing), ii) production of MAPs, iii) wild collection, and iv) primary processing.

Table 2. Training that the participants would like to receive.

Training	Responses
Production of MAPs (growing own herbs)	6
Wild collection	4
Primary processing (on-farm drying, freezing, storage)	3
Other post-harvest activities (hydro-distillation, compounds' extraction, and/or MAP based products manufacturing)	4
None	0

2.2.2. Subject might be of your interest to know in-depth?

- As it is seen in Table 3, subjects that the participants are most interested in knowing in depth are i) sustainable wild collection, ii) renewable energies and by-product valorisation, iii) transformation, iv) post-harvest processing, v) harvesting of raw materials and use, and vi) packaging and storage.

Table 3. Training in-depth that the participants would like to receive.

Subject of interest	Responses
Good Agricultural and Collection Practices (GACP)	4
Sustainable wild collection (methodology, legislation, control...)	2
Knowledge, identification of MAP species	4
Harvesting of raw materials and use	3
Marketing and business	5
New application technologies (management tools & analytics...)	2
Basics of plant science with emphasis on MAPs	0
Agricultural practices	2
Farm machinery and equipment	2
Post-harvest processing (drying process, preservation...)	3
Transformation (hydro-distillation, extraction processes...)	2
Packaging and storage	2

Renewable energies and by-product valorisation	4
Digital technologies (GPS, GIS...)	1
Communication and marketing tools	2

3. Collecting MAPs

3.1. Type of wild Medicinal & Aromatic Plants that are collected in participants' area

- As it can be seen in the MAPs in Table 4 the wild MAPs that are collected in participants' area are trees, bushes, and herbs. Table 5 shows the common names of some MAPs most collected in Ireland.

Table 4. Type of wild Medicinal & Aromatic Plants collected in participants' area.

Type of wild Medicinal & Aromatic Plants	Responses
Trees (Allspice, Bay (Laurel), Elderberry, Mastic tree, Tilia spp., etc.)	0
Bushes (Honeysuckle, Rosehip, Juniper, Abelia, etc.)	0
Herbs (Anise, Basil, Chamomile, Mint, Thyme, Oregano, Lavender, etc.)	2

Table 5. Common names of some MAPs most collected.

Wild fennel, lavender, rosemary, chamomile, borage, chamomile, mint, thyme.

3.2. How many different medicinal plant species do you collect?

- 2 out of 6 participants answered this question. The number of species collected varied among the participants from 0 to 3.

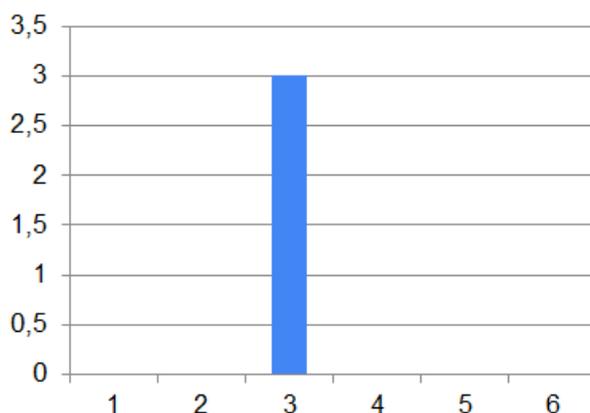


Figure 7. Number of species collected by participants.

3.3. When and how long is the usual harvest period?

- 2 out of 6 participants answered this question.
- June to September seems to be the harvesting period for MAPs in Italy (Table 6).

Table 6. Harvesting period

Response	Period
A	June to September
B	May to November
C	June to August
D	February to October
E	June to August
F	June to October
G	January to December

3.4. What is the approximate area dedicated to wild harvest?

- 2 out of 6 participants answered this question.
- The dedicated area to wild harvest in Italy according to the surveys varies between 1 to 3 ha.

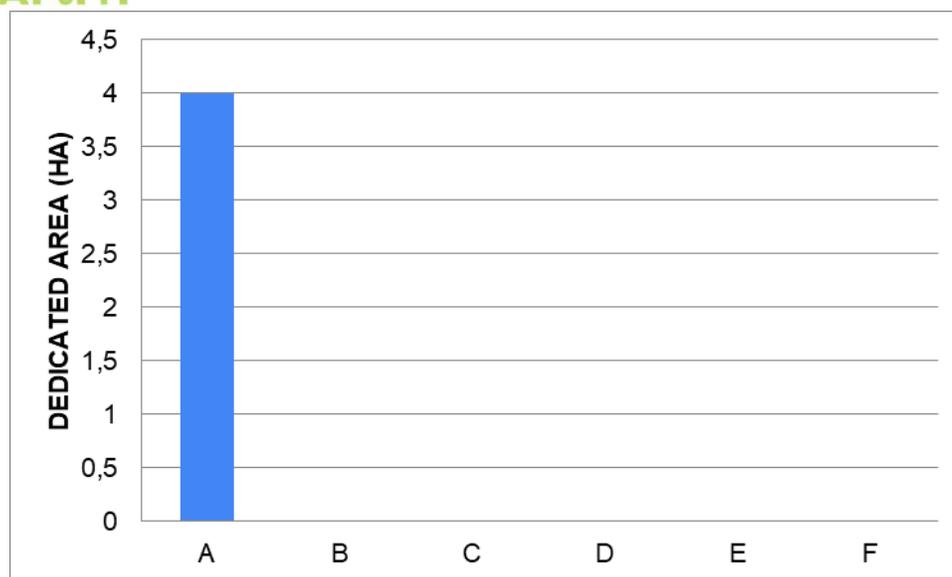


Figure 8. Dedicated area to wild harvest.

3.5. What quantity of wild MAPs do you harvest?

- 2 out of 6 participants answered this question.
- One participant answered that she harvests approximately 200g, while the other one harvest 5 kg.

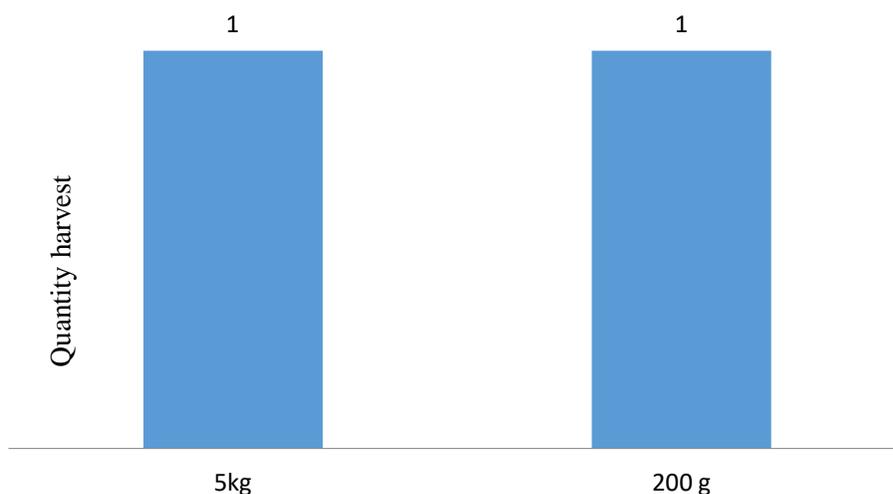


Figure 9. Quantity of wild MAPs harvested in Italy.

4. Growing MAPs

4.1. Which is the most important Medicinal & Aromatic Plant(s) of your farm and what is the total area dedicated to MAPs production?

- Only one participant answer this question saying that the production hasn't started yet but it will be cultivated helichrysum and lavender on the surface of 5-10 ha.

Table 7. The most important Medicinal & Aromatic Plant(s).

MAPs	Total area (ha)
Helichrysum and lavender	5-10



Figure 10. Percentage of producers grown organic.

5. MAPs processing

5.1. Type of MAPs raw material that is most requested for participants work

- 50.00% of the participants use fresh raw materials, while 33.3% of the participants use dried (Figure 11).
- Only one participant (16,7%) replied that he does not know what type of MAPs raw materials he processes. (Figure 11).

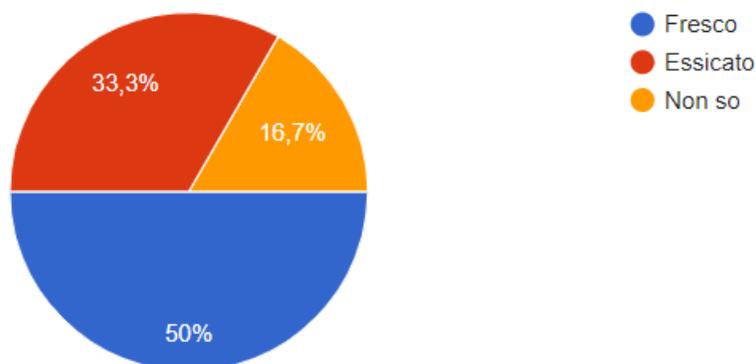


Figure 11. Type of MAPs raw material that is most requested for participants work.

5.2. Would you consider drying as an essential step for MAPs preservation?

- 83,3 % of the participants consider drying as an essential step for MAP's preservation (Figure 12).

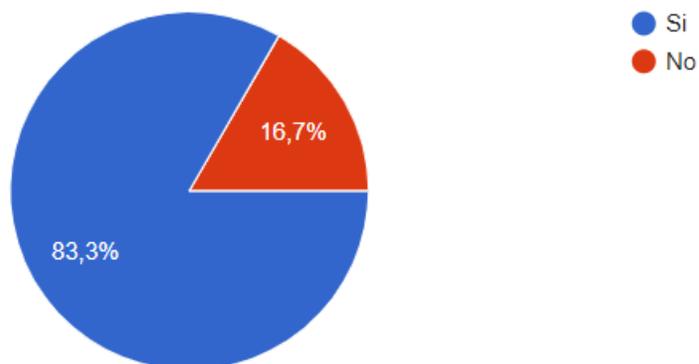


Figure 12. Percentage of participants that would or would not consider drying as an essential step for MAP's preservation.

5.3. Would you describe drying as a complex or expensive system for MAPs distribution?

- 66,7 % of the participants would not describe drying either complex or expensive for MAPs distribution.
- 33,3 % would describe drying as complex and expensive for MAPs distribution (Figure 13).

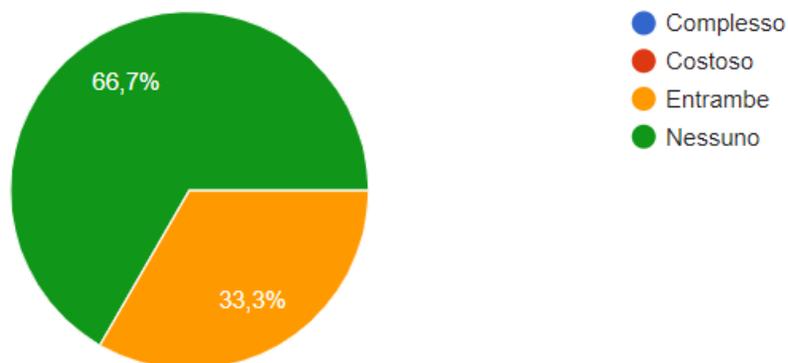


Figure 13. Percentage of participants that would describe drying as a complex or expensive system for MAPs distribution.

6. MAPs market

6.1. Which is your main target customer and that is the main type of sales format do you use?

- 2 participants answered this question. The main target consumers is local trade, followed by wholesale and retail distribution, consumers and agrifood cooperatives (Figure 14).
- The main type of sale format used from the participants is unit/s packaging, followed by dried plants (Figure 15).

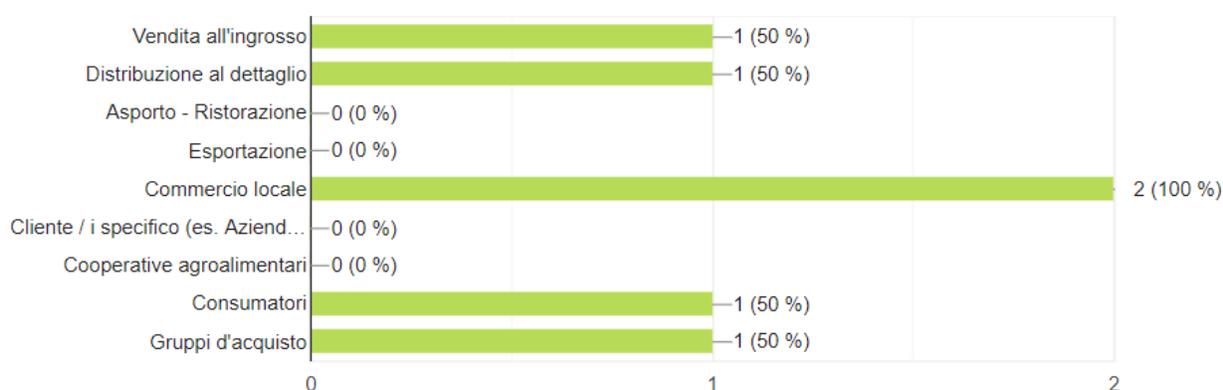


Figure 14. Main target customers.

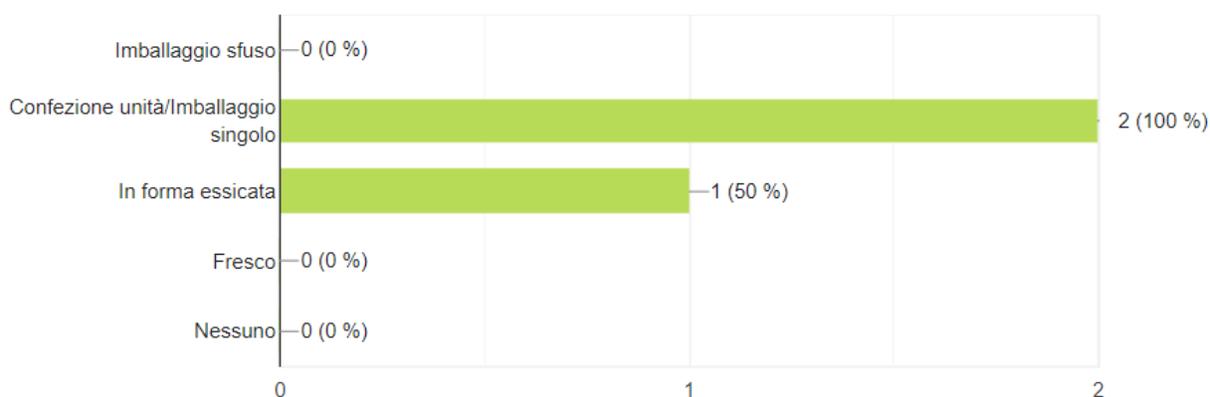


Figure 15. Type of sale format.

7. MAPs tools and knowledge

7.1. If you use any communication and marketing tools to show your work or to connect with potential consumers, which do you use?

- Social network is the most frequent response regarding this question, followed by web, food exhibition fairs and digital platforms (such as Amazon) (Figure 16).

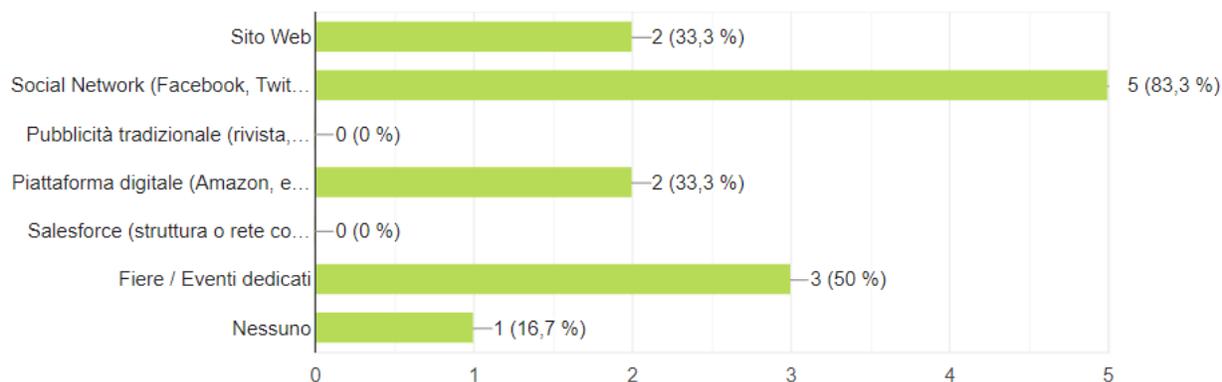


Figure 16. Type of sale format.

7.2. Do you use any modern technological tools when collecting/producing MAPs?

- Participants who took part in the research do not use any modern technological tool when collecting MAPs (Figure 18).

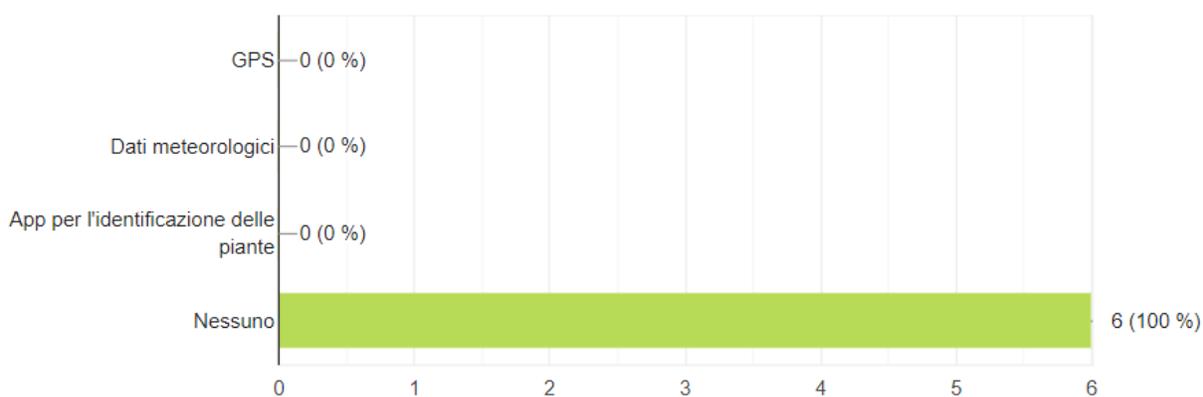


Figure 18. Modern technological tools for collecting/producing MAPs.

7.3. For what kind of collecting and/or producing activity would you like to use digital or online tools?

- Table 8 shows the types of collecting and/or producing activities that the participants would like to use digital or online tools for.

Table 8. Type of collecting and/or producing activity that the participants would like to use digital or online tools for.

Collection and trade
Best and most updated agronomic techniques
Drying process

Research
Sale

7.4. What other non-crop specific information might interest you?

- Participants would be interested in learning about i) using new technologies, ii) organization and management of production, iii) marketing and networking, as well as iv) offer concentration and brand creation (Figure 19).

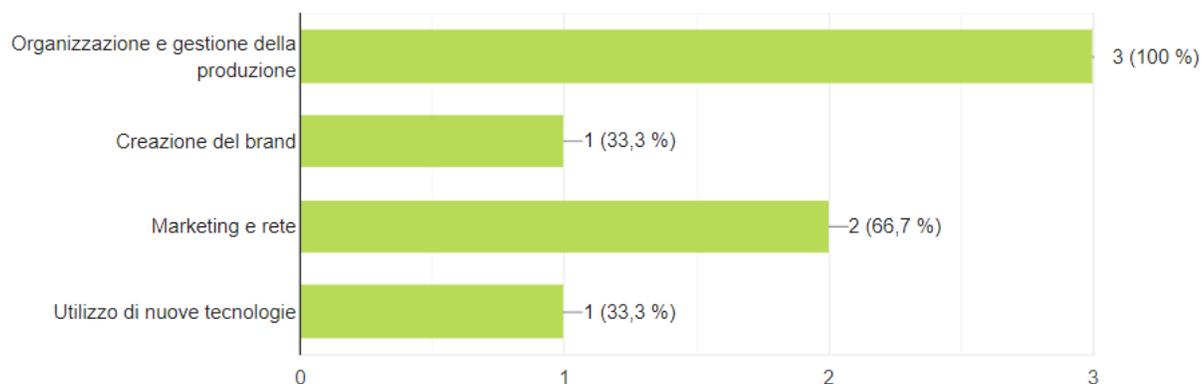


Figure 19. Non-crop information that the participants might be interested in.

7.5. Actions that the participants would like to be contacted for

- The participants would like to be contacted for webinars, workshops, training activities, as well as to receive the wildmapsfit info sheet and to receive periodical updates on the project results.

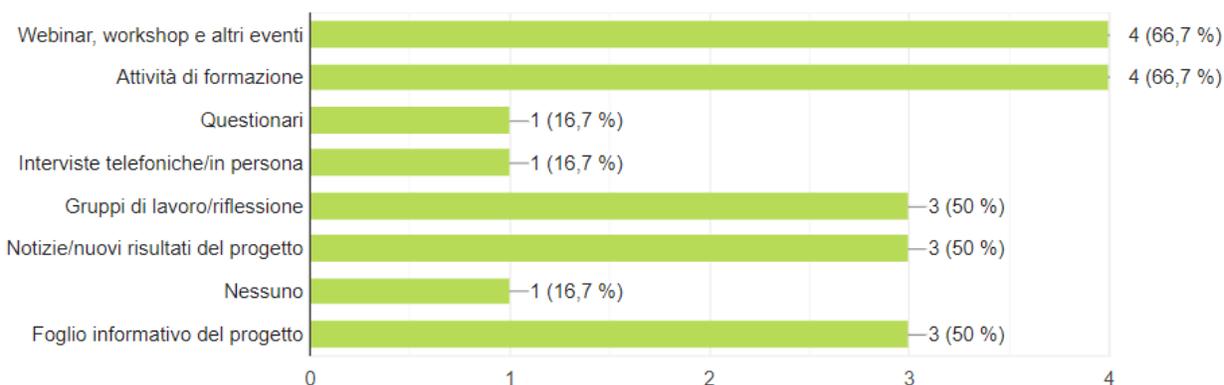


Figure 20. Actions that the participants would like to be contacted for.

2. Focus group research

2.1. Focus group research – UCD (Ireland)

In Ireland the focus group research was conducted online through zoom on the 26th of August 2021 at 2pm until 3:10 (70min). In the focus group research conducted by UCD, 3 key stakeholders actively involved in the medicinal and aromatic plant sector of Ireland were participated (Figure 1). Specifically, one participant works in the herb section of one of the biggest companies in Ireland called Bord na Mona, one participant is a small scale farmer, herbalist, and teacher of growing herbs and herbal medicine in Ireland, and one participant is assistant professor at UCD and has more than ten years' experience in medicinal and aromatic plant research. The participants were asked and discussed the following 6 questions: 1) How important is the medicinal and aromatic plant sector for Ireland? What are the most economically important medicinal and aromatic plants (wild or cultivated) in Ireland?, 2) Based on your experience what are the challenges in Irish medicinal and aromatic plant sector?, 3) Can organic farming of medicinal and aromatic plants be more profitable than conventional?, 4) How will farmers, individually or associated in cooperatives establish direct contacts with industry?, 5) How important do you think is further processing/drying and extraction for creating high value medicinal and aromatic plant products?, and 6) How medicinal and aromatic plants can link to agriculture and bioeconomy sector?

Table 1. Focus group research UCD.

Number of Participants	3
Number of Moderator	1
Time	70 min
Place	online through zoom
Date	26/8/2021

Topic agenda	UCD- Focus group WildMapsFit
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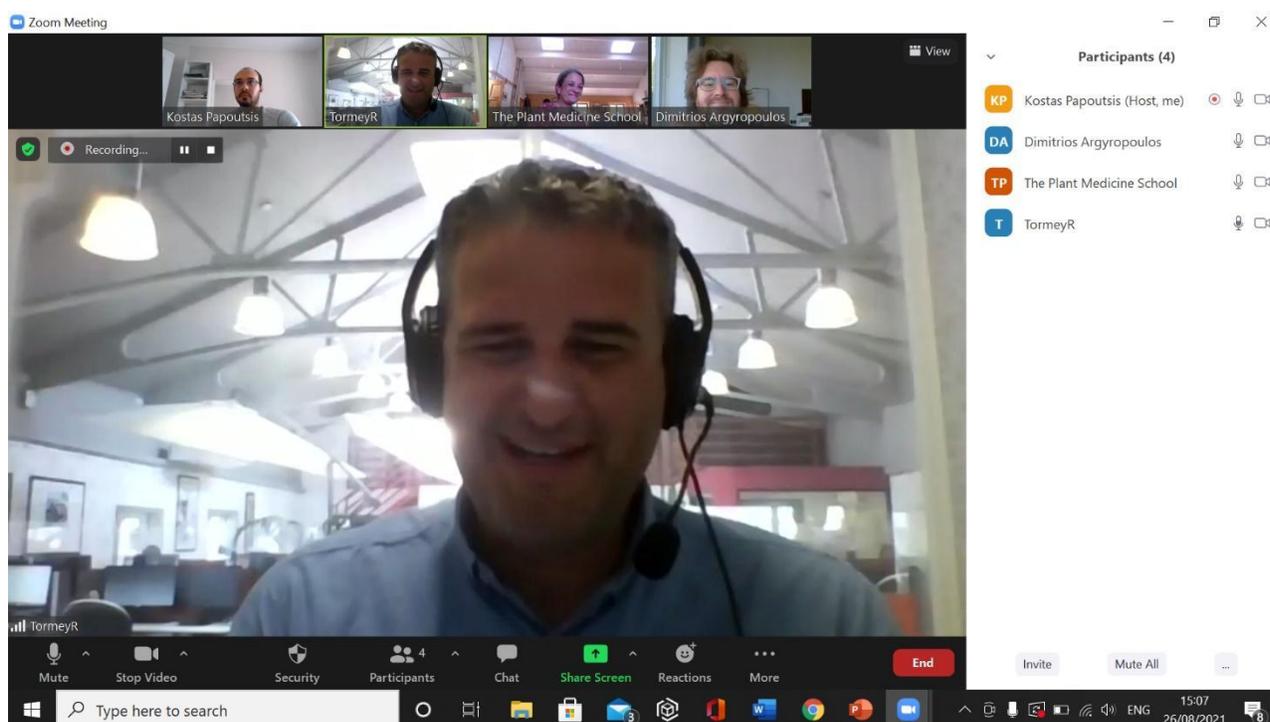


Figure 1. Picture of the participants of focus group research (UCD).

Questions and responses:

Question 1: How important is the medicinal and aromatic plant sector for Ireland? What are the most economically important medicinal and aromatic plants (wild or cultivated) in Ireland?,

Response 1: Ireland has a long history in medicinal and aromatic plants (MAPs) and for that reason it attracts foreign students who are interested in getting training in MAPs field (i.e., growing and herbal medicine). In Ireland there is an established market for MAPs since there is an increasing demand for MAPs products including teas, supplements, cosmetics, and herbal medicines among others. The production of MAPs in Ireland and the available data about total cultivation area, total yields etc. are limited at the moment. The MAPs that are mainly cultivated

in Ireland for a commercial use are peppermint, tea herbs, lemon balm, spearmint, rosemary, echinacea, calendula, among others. Most of the demand of MAPs in Ireland is covered with imports. MAPs in Ireland are imported in different forms, including dried MAPs, essential oils derived from MAPs, and capsules.

Question 2: Based on your experience what are the challenges in Irish medicinal and aromatic plant sector?

Response 2: The challenges in Irish MAPs sector are the weather conditions (i.e., high humidity and also unstable weather conditions), the high labour cost, and also the lack of a central MAPs association.

Question 3: Can organic farming of medicinal and aromatic plants be more profitable than conventional?

Response 3: In Ireland an integrated growing system would be more efficient and promising than organic agriculture, due to the higher production costs of the latter. In general, Irish MAPs can compete MAPs produced in other countries due to the fact that they grow in a non-contaminated land, hence the products are clean from pesticides.

Question 4: How will farmers, individually or associated in cooperatives establish direct contacts with industry?

Response 4: The development and growth of the MAPs sector in Ireland can be achieved by the establishment of direct contacts between the farmers (individually or associated in cooperatives) with the industry. The industry should take the initiative to provide some training to the farmers (i.e., in business development etc.).

Question 5: How important do you think is further processing/drying and extraction for creating high value medicinal and aromatic plant products?

Response 5: Drying and further processing of fresh MAPs are key steps for the production of high value products with long storability. However, due to the high energy costs the drying process in order to be affordable requires large MAPs quantities. Especially for a small farmer drying cannot be affordable. The only way if the MAPs are dried and then subsequently processed for the extraction of bioactive.

Question 6: How medicinal and aromatic plants can link to agriculture and bioeconomy sector?

Response 6: Through the collaboration between the industry, research centres/academia, and farmers. A farmers' association could help to that direction as well.

2.2. Focus group research Çanakkale Onsekiz Mart University (COMU) (Turkey)

In the focus group conducted by the Çanakkale Onsekiz Mart University, 25 invited individuals participated, as representatives of Agriculture, farmers' organizations; professional farmers, agricultural extension services and association of agricultural engineers. The focus group was conducted on the 06-09-2021 at ÇOMU- Agricultural Faculty – Çanakkale and lasted for 1.15 hours. The opening speech of the meeting was made by Prof. Dr. Harun BAYTEKİN and the main theme of the talk was how important such projects are for the development of vocational education. Apart from this, brief information about the aims of the project was presented. Then, to be evaluated in the project, the participants are required to make an oral SWOT analysis in the field of Medicinal and aromatic plants in Turkey and in this context, especially:

Questions and responses:

Question 1: We asked and discussed the importance of this sector for the country, especially the cultivation, marketing and export opportunities for the regional farmers.

Response 1: The participants think it is important for the country, for their economy, and they say that there has been an intense demand in this field in recent years.

Question 2: Nine of the participants were agricultural engineers and they were asked about the technical and bureaucratic difficulties in the medicinal and aromatic plant sector and their thoughts on the solution.

Response 2: Especially Agricultural engineers think that the bureaucracy related to marketing is intense and this should be reduced.

Question 3: The participants were asked at what point the cooperatives were in the process, from production to processing and marketing. The efficiency of cooperation with cooperatives was discussed.

Response 3: Producers say that the cooperatives are not very effective, so either the merchants buy their products at a cheap price or they try to market them themselves.

Question 4: The participants were asked and discussed, especially their thoughts on processing/drying and extraction of plants in order to develop medicinal and aromatic plant products with high added value.

Response 4: In this area, farmers state that they follow innovations, but sometimes machinery and equipment are expensive, and when they cannot buy, they process with traditional methods.

Question 5: The participants were asked what their difficulties were with the use of medicinal and aromatic plants.

Response 5: It was stated that the farmers especially had a lack of knowledge about the use of the product in direct sales and they needed training in this field.

Question 6: Farmer participants were asked how well they know about new technologies in growing and processing medicinal and aromatic plants.

Response 6: They know traditional methods well but are also open to innovative approaches. They say that the agricultural directorates, universities and vocational training centers provide information to them from time to time on this subject.



Figure 2. Picture of the participants of focus group research.

2.3. Focus group research – FEUGA (Spain)

The focus group carried out in Spain involved 3 experts in MAP with a major focus on training:

- A professor from the University of Santiago de Compostela who teaches training in Plant Production, including a module on MAP and mushrooms.
- A botanist with extensive knowledge on MAP and works as a freelancer in MAP training.
- A forestry engineer, with experience in production of cosmetic products based on MAP and social education. She has provided training for MAP production and derivatives in the past and currently conducts environmental education activities including MAP-related topics. She is also an expert in heritage interpretation.
- Two people from FEUGA, one as an observer and the other as a facilitator.

Throughout the development of the focus group, six main questions have been addressed, to which the participants have commented their points of view. Although the three experts come mainly from the training field, two of them are also familiar with PAM production processes and their experience is quite diverse, adding different perspectives of great value for the project.

Questions:

1. What is the importance of the MAP sector in Spain? Does it have a significant economic impact? Which MAPs are most relevant in Spain?

2. What are the most important challenges of the MAP sector in Spain? What priorities should be addressed?
3. Is organic cultivation of MAP profitable and can it be more profitable than conventional cultivation?
4. What kind of MAP processing is crucial to achieve high value and high quality products?
5. In terms of training, what are the main gaps we need to address? What is needed to ensure adequate training and attract young people?
6. How do we achieve greater unification of MAP cultivation and harvesting with agriculture and local economies?

Regarding the MAP sector in Spain, the participants highlight the relevance of the western part of the peninsula, the Mediterranean and southern areas, since, due to their climate, MAPs develop better. In any case, it is difficult to estimate the impact of the sector in Spain, especially in terms of harvesting, due to the lack of supervision and control. We do not know the real impact. In terms of highly relevant MAP, the participants highlight arnica, laurel and eucalyptus in Galicia. There are also productions of gentian and other MAPs in smaller extensions. In the rest of Spain, lavender, thyme and mint, among others, stand out, data that also coincide with the results obtained in the questionnaire applied in the project.

Although when it comes to MAP, most people think and focus on producing plants for tea or essential oils, in recent years, the use of MAP is beginning to extend to more diverse productions, such as animal feed to reduce the use of antibiotics. Greater importance is also being given to the collection of edible wild plants, including MAPs, the production of homemade natural cosmetics and self-sufficiency. However, this occurs without intentions of commercialization, since large quantities of plant are needed to obtain a benefit (very extensive cultivation), in addition to some processing to achieve real benefit.

Along these lines, to the question "what are the challenges and priorities of the PAM sector in Spain?", the participants indicate several, which also cover the question "what are the main training gaps?":

- Make PAM production profitable, since a large part of the profits go to intermediaries (wholesalers); one option is to make it easier for producers to complete the process from production to commercialization which reduces the need for intermediaries and wholesalers (who are the ones who regulate the market), among other benefits. We have to make production competitive, however small it may be, and currently there are some successful cases (e.g. Millhuoa, Galicia), but few.

- Create and take advantage of a production and marketing system based on association, which is already successful in other sectors at the local level (e.g. seafood).
- Take advantage of resources such as forest communities, since land that can be used for MAP production is usually low cost.
- Ensure resource protection in the harvesting process. There is little training in this area, and harvesters do not always do it correctly, which affects the environment, the quality of MAP and biodiversity.
- Related to the above, that there is some kind of accreditation for collectors and specific training before launching into the market. Therefore, formal training would be needed especially to avoid depletion of wild resources. There are also few guides to facilitate sustainable harvesting.
- Finally, there is a need for greater control of the introduction of foreign species, which end up being invasive and disrupt the natural dynamics of the environment.

Organic cultivation has also been discussed. Participants indicate that it is crucial, as the most important thing about MAPs is the quality of the plant. They believe that any plant that is intensively produced should have an organic seal, but the needs of the plants must also be taken into account. For example, native plants such as thyme are easier to grow organically because they need few special conditions. In any case, for organic MAPs to be profitable we go back to the issue of processing, it is not profitable only the cultivation or harvesting, the more processes are covered (up to the final product) by the same producer, the more profitable it could be. In fact, this would be the only way out when it comes to small scale productions.

In order to attract young people in this sector, the participants indicate the need to solve the problem of profitability when dealing with small crops and the relationship with wholesalers. They also indicated a greater interest in mushroom picking by young people, probably due to the greater dissemination of this activity. For this reason, it is important to make this sector more visible and to offer complete and quality training, as well as the necessary tools for the cultivation/collection of MAP, including processing.

Regarding the impact of the MAP sector on local economies, the participants indicated that working with MAP should be an integrated activity and aligned with other areas of agriculture, including mushrooms. The impact on local economies is difficult if working with MAP is an isolated and unprocessed activity, since currently, the one who produces MAP is the one who earns the least. As mentioned above, there is a need for more training, awareness of good practices and also to include some processing of cultivated/collected MAP, reducing dependence on wholesalers.



Figure 1. Picture of the participants of focus group research (FEUGA, Spain).

2.4. Focus group research – Hellenic Agricultural Organisation – Demeter (Greece)

In Greece the focus group research was conducted online through zoom on the 29th of September 2021 at 13.30pm until 3:10 (100min). In the focus group research conducted by ELGO, 5 key stakeholders actively involved in the adult educational and the medicinal and aromatic plant sector of Greece were participated (Figure 1). Specifically, one participant owns one of the biggest companies in Greece called “Aegean Organics”, one participant is a small scale farmer and wild collector of herbs, one participant is assistant professor at ASPETE (School of Pedagogical and Technological Education) and has more than twenty years’ experience in adult learning, one participant is the Director of the Institute of Plant Breeding and Genetic Resources with more than twenty years’ experience in medicinal and aromatic plant research, one participant is the president of Northern Greece Organic Farmers Association, and one participant is a forester working in the Greek Forest Service, expertised in non-wood forest products.

The participants were asked and discussed the following 4 questions:

- 1) Based on your experience what are the challenges in Greek medicinal and aromatic plant sector?
- 2) Which forest species have or could have an economic interest?
- 3) How could we deal with the challenge of sustainable wild harvesting?
- 4) What information would you like a relevant training seminar to include?

Table 1. Focus group research ELGO.

Number of Participants	5
Number of Moderator	1
Time	100 min
Place	online through zoom
Date	29/9/2021
Topic agenda	ELGO- Focus group WildMapsFit

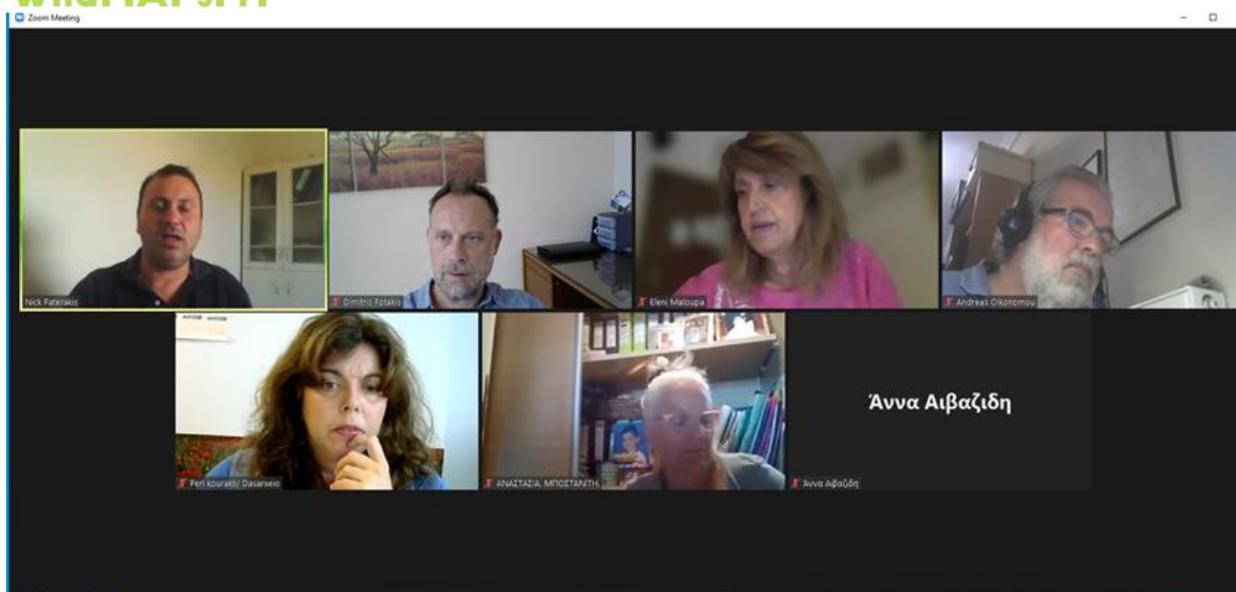


Figure 1. Picture of the participants of focus group research (ELGO).

Questions and responses:

Question 1: Based on your experience what are the challenges in Greek medicinal and aromatic plant sector?

Responses 1: Long time investment, education (in all areas), large number of wild herbs collectors. training in more species and products, non-monitoring of natural resources, ecological carrying capacity, ownership, producer support, market demand information, collection protocol, traceability, standardization protocol, investment opportunities, entrepreneurship, Greek warm climate (needs cold), training in collection, cultivation and processing, organization and education in all parts of the value chain.

Question 2: Which forest species have or could have an economic interest?

Responses 2: Wild roses, nettle, mushrooms, mountain tea (Olympus, Crete), oregano, onites, thyme, rockrose (Cistus), asparagus, mint, mint, primrose, elderberry (Sambucus), prunus, berris, blueberries, strawberries, raspberries, blackberries, sage, mint, oatmeal, lavender.

Question 3: How could we deal with the challenge of sustainable wild harvesting?

Responses 3: Prohibition, education, legal harvesting –permission from the Ministry of Environment,, resources management studies, selection for cultivation - unstable quality, guarding, 24-hour protection, controlled grazing, product certification, sustainability certification, rational pricing, more focused research.

Question 4: What information would you like a relevant training seminar to include?

Responses 4: Legislation (Nagoya, forest department, etc.), plant physiology, environment awareness, collection-processing-certification, entrepreneurship, nutritional value, institutionalization of seminars