



# The Food Value Chain of Faba bean in Serbia

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# 1. THE VALUE CHAIN OF FABA BEAN IN SERBIA

## 1.1 Faba bean in Serbia

In the tradition of faba bean has in Serbia quite recognizable position. In former times, before and immediately after the Second World War faba bean was regularly produced in rural households in Serbia and used for preparation of diverse meals in the form of green beans or of dishes made from dry mature seeds. Nowadays, the tradition of preparing faba bean dishes has remained only in southeastern region of Serbia. Faba bean is usually prepared during the Christmas fast and feasts called in Serbian “*slava*”, dedicated to the patron saint of a family. The most popular dish prepared from faba bean is aspic. It is usually prepared according to a traditional Serbian recipe. Households in the rural regions mainly produce the quantity of faba bean just to fit their needs and they usually maintain their own faba bean landrace, with rare exchanges with the others (Anđelković et al. 2013).



Figure 1- Traditional specialities made from faba bean

In Institute for field and vegetable crops as the largest public institute involved in plant breeding in Serbia, the collection of faba bean varieties and populations from Serbia and other parts of the world is maintained. However, there are no breeding programs for faba bean and consequently there is no certified acknowledged domestic variety of faba beans. There is also no certified faba bean seed production.

After the Second World War, with rapid urbanisation of the country, faba bean became neglected crop which has almost completely been replaced with *Phaseolus* beans. There is no data about its production in recent years.

Based on the data obtained from the customs administration of Serbia faba bean is each year imported to Serbia in small quantities, ranging in last five years from 19 to 36 t (table 1). On the basis of these quantities faba bean is occasionally available at the market in healthy food shops.

Table 1 - Import of faba bean to Serbia in last 5 years

Year	Imported quantity, kg	Share of import from Turkey, %	Share of import from Egypt, %
2017	36.368	35	65
2018	19.198	57	42
2019	25.211	62	37
2020	30.296	50	50
2021	34.244	55	45

There is almost no export of faba bean from Serbia (Table 2) and small quantities for which export was recorded in 2017 and 2018 (150 and 50 kg respectively) present most probably research samples or something similar.

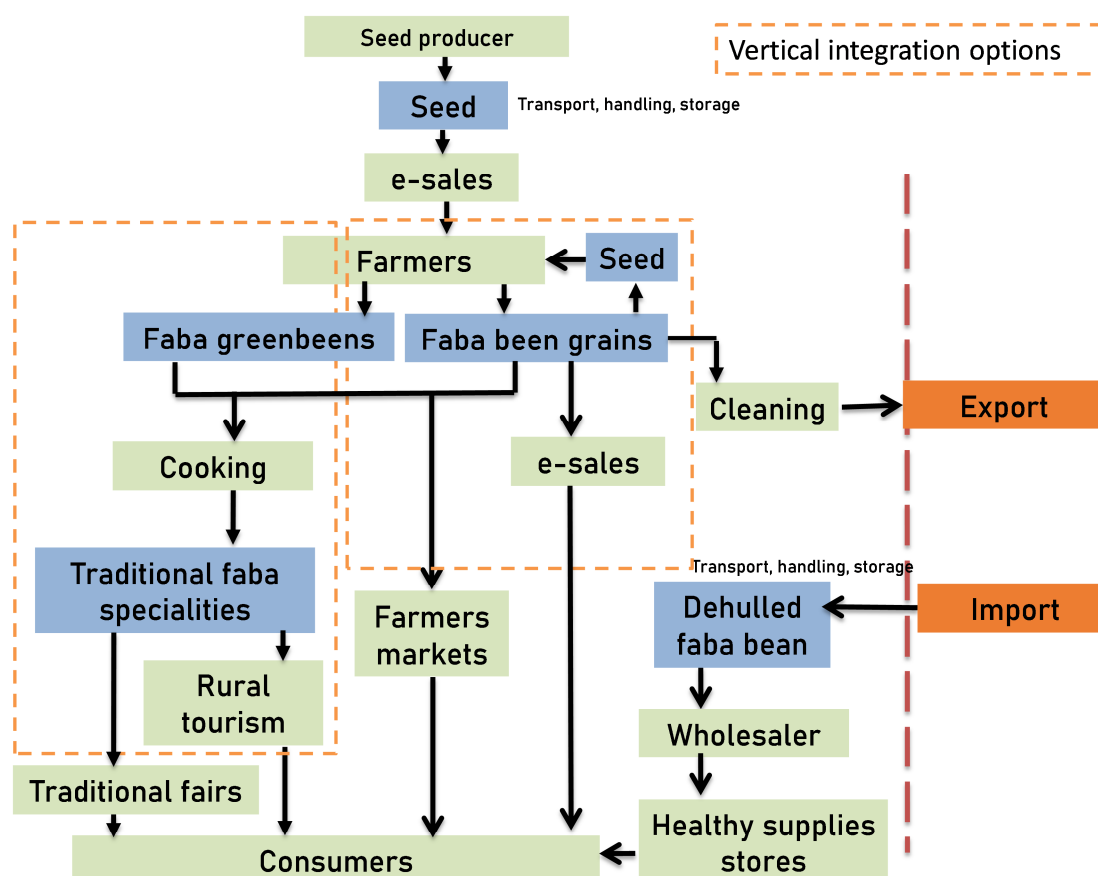
*Table 2 - Export of faba bean from Serbia in last 5 years*

Year	Imported quantity, kg	Countries to which export was realised
2017	150	USA
2018	50	Montenegro
2019	-	-
2020	-	-
2021	-	-

## 1.2 Results

### 1.2.1 Description of the faba bean value chain

Although, there is no commercial value chain of faba bean in Serbia, existing faba bean value chain with involved value chain actors in Serbia was mapped and presented in Figure 1.



*Figure 2. Mapping of faba bean food value chain in Serbia*

There is no certified faba bean seed offer in Serbia. There are several seed producers who promote organic agriculture and the cultivation of old plant varieties. They offer few faba bean varieties, i.e. non-certified faba bean traditional landraces among other plant varieties. Sales of seeds for traditional plant species, including faba bean are mainly oriented on e-sales.

Faba bean production is mainly conducted by farmers within small households. They produce faba bean for their own needs. Faba bean producers put aside part of their harvested seed for the next sowing.

During the production season in rural areas farmers sometimes sell faba bean in the form of greenbeans or in the form of dry faba seeds at farmers markets in the villages. Faba bean can also sometimes be found in e-commerce offer. Farmers place usually their offer in commercial e-sales applications.

Households involved in faba bean production use faba bean seeds or greenbeans for traditional faba bean specialties. Faba bean aspic is the most renowned traditional dish in which faba bean is used, but other food specialties from faba bean are prepared too. For example traditionally dried red peppers filled with faba bean, faba bean stew with barley or potato made from faba greenbeans, soups or broths with faba bean etc. Faba bean specialties are offered at food-based festivals and they are part of rural touristic offer of the rural households.

Only one case of commercial faba bean production was recorded by a farm in northern part of Serbia last year through the interview with a company which cleaned produced faba bean (about 2 t). The whole quantity produced was after cleaning exported.

Processed (dehulled) faba bean seeds are occasionally available in healthy supply shops. These products are imported by wholesalers and distributed through healthy supply shops to final users.

### 1.2.2 Overview of the interviews completed

The primary search for entities involved in faba bean production and processing in Serbia was performed using data available at the internet. Great help in identification of entities involved in faba bean value chain was provided also by the expert who worked for many years on maintenance of collection of faba bean varieties, landraces and populations. From these sources the following participants in faba bean value chain in Serbia were identified:

- Faba bean seed producers and traders
- Faba bean producers and sellers

Additionally, through the conversation with representatives of healthy supplies distribution networks the following stakeholders were identified.

- Healthy supplies wholesales
- Healthy supplies distributors








Based on obtained data the list of interviewees was outlined. Due to the fact that research was conducted during the COVID 19 pandemic, in order to avoid direct contact, interviewees were mainly contacted through the phone calls. The interviews with value chain actors having deeper knowledge and understanding of the issues in faba bean value chain were conducted as face to face interviews.

The overview of number of interviews per value chain actors<sup>1</sup> is provided in table 3. In the table the method (face to face or telephone) used for conduction of the interview is presented.

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<sup>1</sup> Interviews with companies with multiple roles in value chain are presented in the table as multiple interviews

Table 3. Overview of the number of interviews performed for each buckwheat VC actor.

VC actors	Numbers of interview	Method
Seed producer and trader	2	 
Farmers	2	 
Processing	3	
Seller	1	
Faba bean collection maintenance	1	



Interview conducted in face to face communication with application of preventive measures regarding COVID 19 pandemic



Interview conducted in telephone conversation

### 1.2.3 Breeder

In the largest Institute involved in plant breeding in Serbia the collection of **faba** bean varieties, landraces and populations is maintained. The collection at Institute of Field and Vegetable Crops in Novi Sad contains 141 accessions of food and feed faba bean. However, there are no breeding programs for faba bean intended for food production, and hence there is no certified acknowledged variety of faba beans. There is also no certified food faba bean seed production.

#### Identified problems:

**No certified cultivars of faba bean**  
**Leading institutions only maintain collections;**

**There are no ongoing breeding /research program**

**Small producers mainly used their own (non-certified) seeds**

The first Serbian **feed** faba bean breeding programme which resulted in registration of two cultivars with high yield of green forage, was realised in 2007. There were no breeding programs after that. Lack of breeding programs for faba bean can mainly be attributed to the lack of demand for faba bean seed which is the consequence of nonexistence of habit of utilisation of faba bean in daily diet by consumers in Serbia.

Small farmers and households usually maintain their own faba bean landrace and mainly use their own seed from previous harvest for the next sowing. They usually produce faba bean only for the needs of their households.

### 1.2.4 Input suppliers

According to the information obtained in the interviews small farmers do not practice the use any of agronomic measures and they categorised faba bean as a “crop with low demands”.

#### Identified problems:

**Knowledge creators mainly focused on other legume cultivars**

**Breeding programs of faba bean were last conducted in 2007**

There is no literature about faba bean production, nor the researchers in the field of agronomy putting efforts into defining of optimal production technology for faba bean under agro ecological conditions of Serbia. There are no recommendations available and, thus, producers are relying on traditional production methods and technologies.

### 1.2.5 Knowledge providers and services

Although studies indicate great potential of faba bean to be re-introduced in the Serbian agriculture as a multi-purpose crop due to high, quality and stable yields and suitability to fit into different cropping systems, including organic farming (Mihajlović et al. 2010), Serbian faba bean breeding programmes and certified seed production are on the low level, primarily due to lack of seed demand. Consumers knowledge about this cultivar benefits and nutritional quality is quite scarce.

Within the Institute of field and vegetable crops in Novi Sad as the leading state-owned institution in the field of seed breeding and production there is the Center of excellence for legumes<sup>1</sup> employing more than 20 experts. This Center participates in numerous international projects (including CROPdiva). However, their publications and research activities are dealing with other legume cultivars than faba bean. However, this Center of excellence, with its excellent research and commercialisation resources, can be a driving force for revitalisation and spreading of faba bean production in Serbia.

### 1.2.6 Producer

There are no large, commercial producers of faba bean in Serbia. Most Serbian local landraces of faba bean are for food use. Faba bean is mainly produced by small households at small areas, in gardens. Farmers usually use their own (non-certified) seed for the production.

**Identified problems:**  
**Utilization of non-certified seed**  
**No commercial growers**  
**Low inputs**

Traditional production technology with use of manual labour and with low inputs regarding fertilizers and pesticides is applied. Yields are not measured or recorded.

### 1.2.7 Collection centre

As there are no significant quantities of faba bean in Serbia produced, there is no need, neither the possibility for existence of collection centre specialised for faba bean in Serbia.

### 1.2.8 Processing

There is no firm in Serbia involved in faba bean processing.

The main motive for the production of faba bean in small households is traditional preparation of faba bean dishes during the fast as well as preservation and promotion of culture heritage.

The only “processing” of faba bean is taking place in rural households where traditional faba bean specialities are prepared. Seed is used in mature or green stage to prepare dishes such as soup,

<sup>1</sup> <https://ifvcns.rs/istrazivanje/centri-izuzetnih-vrednosti/centar-izuzetnih-vrednosti-za-leguminoze/>

broth or stew - like food. In some rural areas of southeastern Serbia faba bean flour is also used in traditional bread recipes in the mixture with wheat flour. It is also used instead of rice with meat for stuffing of traditional dried red peppers which are baked in the oven. However, the most renowned dish made from faba bean is the traditional aspic.

Although faba bean is known as high nutritious feed for cattle, feed-grade landraces of faba bean are rare.

According to the information obtained in the interviews, the farmers perceive that “faba bean has been unfairly neglected cultivar”.

In the regions of Serbia where traditional faba bean growing is preserved there are several associations which among other activities aim at preservation of faba bean production and its utilisation in traditional dishes. There is the association of woman from village Temska “Temštanka”<sup>1</sup> working on preservation of traditional dishes including the ones made from faba bean and on their promotion at the market.

### 1.2.9 Retailing

There are only few small retailers of faba bean who sell their product directly to the consumers using on-line sales as the main distribution channel.

**Identified problems:**  
Small quantities  
Small number of retailers

Occasionally faba bean is also sold by farmers at green market in the form of green beans or in the form of dry seed, usually in small cities and villages in the regions where the tradition of utilization of faba bean in the diet is preserved.

Traditional faba bean dishes prepared in rural households find their way to the market either through rural tourism offer or at rural offer promotion events like the “Festival of food from Stara planina”<sup>2</sup>, which is organised in the village Temska every year, and similar.

Although there are a lot of healthy supplies shops in Serbia, only few of them offer faba bean. They sell dehulled seed originating from imports which they buy from wholesalers.

### 1.2.10 Marketing strategy

In Serbia faba bean is almost completely neglected in the diet and replaced by peas and beans. Consumers’ consumption of faba bean is almost exclusively limited to certain rural regions of Serbia. Value chain actors do not perform almost any marketing activities. The only marketing activity of small producers of faba bean is their participation in food festivals and fairs where they participate as exhibitors of the traditional faba bean dishes. These activities are also localized and characteristic only for rural regions of southeastern Serbia. Seed sellers do not have much information about the nutritional composition of the faba bean on their websites they mainly promote it as an “old forgotten crop”.

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<sup>1</sup> <https://www.facebook.com/Temstanka/>

<sup>2</sup> <https://www.srbija.travel/sr/vesti/9197-iv-festival-staroplaninskih-jela-selo-temska-stara-planina-pirot>



## 1.3 Discussion

Based on presented facts it can be concluded that there is no real commercial value chain for faba bean in Serbia. Although, historically faba bean was among widely grown and highly valued crops in Serbia, urbanisation which rapidly occurred during the last quarter of 20<sup>th</sup> century resulted in decrease of number of farmers producing faba bean. The fact that neither collection centre nor processing company specialised for faba bean was ever established resulted in the fact that faba bean is almost not present at the market of Serbia. As the consequence, among the upcoming generations the habit of utilization of faba bean in the diet was not developed. Thus, for the majority of Serbian population faba bean and its culinary and nutritional properties are almost unknown resulting in lack of demand for this crop at Serbian market.

Due to lack of demand, there is no need for commercial production of faba bean, and consequently no need for seed production.

So, the main motive for the production of faba bean in Serbia is preservation and promotion of culture heritage of rural regions in southeastern Serbia.

However, Serbia, with its climatic conditions and arable land has high potential for initiation of commercial faba bean production and establishment of plant for processing of faba beans in primary (grain and flour) and secondary (processed food) products and their export to the markets with higher demand for faba bean.

In increase of demand for faba bean among the consumers at Serbian market this “forgotten crop” with all its nutritional and culinary properties has to be promoted widely and slowly introduced back into the diet of Serbian population.

With existing Center of excellence for legumes, strong Institute for Food Technology, existing collection of varieties and landraces this task, with appropriate support from the public policy makers might be feasible.

### 1.3.1 Past challenges & successes of the value chain

Food value chain for faba bean was in Serbia never really established. Although in the past production and consumption of faba bean was among rural population quite wide spread and often used in recent times faba bean production in Serbia was never organised on commercial basis, while the lack of offer resulted in almost complete disappearance of this crop from daily menu of Serbian population.

However, faba bean is not in Serbia completely forgotten. Large collection of faba bean landraces is maintained in Institute of field and vegetable crops. Rural population in southwestern part of Serbia still preserves the tradition of faba bean production and preparation of traditional dishes from it.

Climatic conditions and properties of arable land are convenient for faba bean production. There are significant research potentials for revitalisation of faba bean production and utilisation with Centre of excellence for legumes in the field of agricultural production and Institute of Food Technology in the field of processing of this valuable crop.

### 1.3.2 Current and foreseen challenges and chances of the value chain

Detailed overview of the main challenges in faba bean value chain in Serbia with recommendation for strategies to be undertaken and identification of potential benefits for actors in the value chain are provided in Table 4.

*Table 4. Summary of the challenges, strategies and potential benefits for each value chain actor.*

VC actor	Main challenges & opportunities (order: most important first)	Strategies undertaken/to undertake	Potential & benefits for the actor in the VC chain
Input suppliers (breeders, seed producers, seed traders)	<ul style="list-style-type: none"> <li>Seed breeders have no interest in performing breeding programs and intensification of seed production due lack of demand</li> <li>Farmers use non certified seed</li> </ul>	<ul style="list-style-type: none"> <li>Popularisation of faba bean nutritional and functional quality among consumers</li> <li>Animation knowledge creators to direct activities at faba bean and to strongly connect with farmers</li> <li>Initiation of breeding programs and introduction of certified seed into use</li> </ul>	<ul style="list-style-type: none"> <li>Utilization of certified seed in production</li> <li>Turning faba bean from “hobby” production to the commercial crop</li> </ul>
Input suppliers (researchers)	<ul style="list-style-type: none"> <li>There is almost no research related to faba bean nutritional properties, production and processing technology</li> <li>Centre of excellence for legumes exists</li> </ul>	<ul style="list-style-type: none"> <li>Refocus research</li> <li>Initiate promotion of faba bean not only as a part of culture heritage but also as a valuable protein source and commercially viable culture and include farmers and households in the projects</li> <li>Initiation of R&amp;D activities in the field of faba bean processing</li> </ul>	<ul style="list-style-type: none"> <li>Utilisation of existing research expertise to promote the faba bean as a valuable crop</li> <li>Initiation of innovation projects and start-ups for establishment of faba bean processing plants</li> </ul>
Producers	<ul style="list-style-type: none"> <li>Production is mainly oriented to household needs and located only in certain regions of Serbia</li> <li>Production based on traditional agronomic approach</li> <li>No market for faba bean, no processors (B2B) and no habits of utilisation and knowledge about benefits of faba bean among consumers (B2C)</li> </ul>	<ul style="list-style-type: none"> <li>Popularisation of faba bean as valuable crop with numerous processing options and numerous benefits in consumption</li> <li>Education of producers regarding faba bean production technology</li> </ul>	<ul style="list-style-type: none"> <li>Increasing yields by using certified seeds</li> <li>Increasing quality of faba bean produced by domestic producers</li> <li>Increasing number of producers</li> <li>higher financial profit of small producers through the popularization of faba bean dishes, as part of the offer of rural tourism</li> <li>Increased yields</li> </ul>
Processors	<ul style="list-style-type: none"> <li>No processors of faba bean</li> </ul>	<ul style="list-style-type: none"> <li>Initiation of innovative pilot plants for faba bean processing on the basis of joint efforts of research related to production and processing</li> <li>Introduction of public policy measures for support of faba bean production</li> </ul>	<ul style="list-style-type: none"> <li>Establishment of the initial faba bean value chain in Serbia</li> <li>Utilisation of potentials of Serbia for production of faba bean</li> </ul>
Retail	<ul style="list-style-type: none"> <li>Only limited quantities of imported faba bean available in retail networks for healthy items supply</li> </ul>	<ul style="list-style-type: none"> <li>Offer high quality faba bean and faba bean based products to well-developed retail networks of healthy item supply</li> <li>Promote benefits and possibilities for faba bean utilisation in daily diet among consumers</li> </ul>	<ul style="list-style-type: none"> <li>Initiating the market for faba bean in Serbia</li> </ul>

### 1.3.3 Limitations

Research was conducted including uniformly actors from all stages of faba bean value chain in Serbia, as well as actors within each step of value chain. Thus, present analysis can be considered as objective presentation of faba bean value chain in Serbia in past years.

## 1.4 Synthesis

Faba bean value chain in Serbia was never really established on commercial basis resulting in neglecting of this valuable crop in this country, both in terms of production and in terms of consumption. However, excellent preconditions for faba bean production which were widely used in the past should be utilised and production of faba bean as prospective crop in Serbia should be enforced.

The process of initiation of faba bean production and processing in Serbia is complex undertaking and for its success coordinated action of all involved and necessary stakeholders must be conducted.

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