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PRODUCT DEVELOPMENT



*Tourism
Entrepreneur's Handbook*

THE HISTORICAL AND THE CONTEMPORARY GARDEN



Interreg
Latvija-Lietuva

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PROJECT LLI - 181 REVIVAL OF OLD TRADITIONAL FRUIT, VEGETABLE AND ORNAMENTAL PLANTS AND THEIR PRODUCTS: HERITAGE GARDENS TOUR (HERITAGE GARDENS).

This handbook has been prepared as part of the project "Revival of old traditional fruit, vegetable and ornamental plants and their products: Heritage Gardens Tour" (HERITAGE GARDENS), which is funded by the European Union under the Interreg V-A Latvia – Lithuania Programme 2014-2020

Project lead partner:



The Project's partners:



The Project's aims

The aim of the project is to promote the conservation and restoration of historical varieties and gardening traditions by including the gardening heritage in tourism. During the project, horticulture experts from Latvia and Lithuania inspected and selected the most valuable sites of horticultural heritage, provided advices on historical varieties, and management of the heritage garden. Cross-border project forced to exchange the experience in this field and to safe old cultivars for the future generations. Latvian and Lithuanian rural tourism associations are helping the garden owners to develop their contribution towards garden tourism, preparing historical garden tourism routes and carrying out marketing activities to promote historical gardens and varieties. Cross-border routes is fostering horticultural lovers to visit valuable objects and attract more foreign visitors. The methodological and informative material developed during the project is useful for the owners of the historical gardens, for the horticultural enthusiasts and shows the need of preservation of the historical objects. The improved infrastructure and developed historical gardens meet tourists at Rundale palace and Obelynė homestead. Horticulture institutes in both countries will enrich their collections for educational and research purposes.

The total project budget is 830,733 EUR. Out of them co-funding of European Regional Development Fund is 706,123 EUR.

Project webpage: www.latlit.eu, The official website of the EU: www.europa.eu, Information about the project: <http://www.celotajs.lv/lv/project/15>



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1.

INTRODUCTION

Historical Heritage gardens is a new, barely explored topic in Latvian and Lithuanian rural tourism. Garden tourism has long-standing traditions in Europe, and it enjoys popularity. There is virtually no comparable offer in Latvia and Lithuania, but there is good potential for it. The most popular gardens in Latvia are, for example, the Rundāle Palace garden with a collection of roses, the Pēteris Upiņis' garden in Dobele, the Kalsnava Arboretum. Several gardeners and variety collectors have opened their gardens for visitors, allowing them to enjoy the beauty of roses, peonies, dahlias, and various ornamental plants in the summer and providing practical tips. The owners of fruit orchards welcome guests, too, combining their visit with consultations on the cultivation and sales of fruits and plants. Manor owners who renovate historical manor houses create proper gardens and parks to develop the manor's environment, not only to the extent of interior design and architecture, but the entire manor ensemble.

In Lithuania there are several botanical gardens, Tadas Ivanauskas Homestead's Obelynė Park with almost 300 different plants collection, Navidanskas Park with old apple orchard, few manor houses with tulip bloom festival and preserved authentic orchard. Big part of the objects have very wide assortment of medicinal and culinary herbs, where visitors can get acquainted with the plants, take part in educational programs about the herbs or taste them. Consultations or examples of old plant varieties you will find at horticulture institute in Babtai (Lithuania). This handbook is useful for:

① professional gardeners and plant breeders. The handbook includes practical tips on preparing the garden for visitors. By welcoming visitors in the garden, it is possible to introduce a wider society with the results of plant breeding – the varieties created, their assets, the value of conserving historical varieties;

② rural tourism entrepreneurs. The handbook includes practical tips on how to design a garden to create a harmonious landscape and a pleasant environment for visitors, in addition to the existing tourism on offer.

The chapters of the handbook introduce the following topics:

The historical heritage garden tourism product.

This chapter provides a definition of the historical garden tourism product. This chapter also introduces the results of the survey of Latvia's gardens carried out by the specialists of the Dobele Institute of Horticulture to establish the situation in Latvia's gardens and evaluate their potential for garden tourism. Specialists from the Lithuanian Research Centre for Agriculture and Forestry together with tourism specialist have inspected and evaluated the places where you can become acquainted with different heritage garden tourism products.

Garden planning and development. This chapter explores the basic principles to take into account when planning and developing any garden – both historical and contemporary. Each subchapter on this topic is supplemented by photographs; examples of garden zoning maps are also provided.

Garden tending and cultivation. This chapter includes tips on the reconstruction of a fruit orchard and the tending of new trees, the cultivation and tending of vegetables, herbs and ornamental plants, as well as advice on the selection of varieties for a historical garden offered for tourists.

How to prepare the garden for receiving visitors. This chapter includes advice on how to develop a garden's story and present information, how to establish a shop, which is an important element in the tourism offer and provides additional income.

Infrastructure for receiving tourists. This chapter describes the minimum required infrastructure for visitors' comfort – parking, facilities, etc.

Historical information on gardening, varieties and plant breeding. This chapter provides a short summary on the development of fruit, vegetable, herb and medicinal plant growing, as well as ornamental gardening in Latvia and Lithuania.

Examples of garden tourism. This chapter explores examples of Germany's fruit orchards as a garden tourism product.



2.

THE HISTORICAL GARDEN TOURISM PRODUCT



2.1. THE DEFINITION OF A HISTORICAL GARDEN TOURISM PRODUCT

Gardens, botanical gardens and plant collections that are open for visitors to learn about the traditions and history of gardening and for viewing traditionally grown fruits, vegetables, herbs, ornamental trees, shrubs and flower varieties. Specialized gardens may offer the opportunity to learn about the history and use of these varieties and the achievements of local plant breeders. Historical gardens reflect the influence of different eras and cultures. Such gardens are often located next to manors, museums or farms and are related to their history.

2.2. WHAT CAN WE FIND IN LATVIAN GARDENS?

Specialists from the Latvian Institute of Horticulture surveyed the gardens in Latvia and drew conclusions on the development potential of a historical garden tourism product.

The aim of the survey was historical gardens as an attractive tourism object with the focus on fruit and herb plants, ornamental shrubs, flowers, vegetables.

The most important aspects of a tourism object are:

- the story of the garden,
- interesting varieties,
- the garden's landscape,
- products etc.

Historical garden tourism objects generally include:

- manor gardens
- farmhouses (rural tourism objects)
- plant collection gardens
- museums dedicated to fruit-growers (in Durbe, Dviete)

They have been established in:

- 19th century (manors, old farms)
- 20th century the first half (farms etc.)
- more recent (plant collections)

Manor gardens:

- Established until the early 20th century (old varieties and historical layouts remain in some places).
- After the agrarian reform of the 1920s, on the property of schools, municipal governments etc.



- There were significant changes during the Soviet years, often demolished or 'improved' in Soviet style.
- There is a story – but only about the manor and the park. Little information is available about the garden itself.
- Only the park, not the fruit orchard, receives attention when plants are tended and mapped.
- There is no information on the varieties of fruit-trees and ornamental plants in the old plantation (a lack of succession).
- If there is a fruit orchard, it is usually small.
- Often only the large park trees are maintained, not even shrubs or flowers are everywhere.
- Only a few sites sell products and use the local fruits and vegetables in catering (this practice is much more common abroad).

Farmhouses:

- Many fruit orchards from the late 19th to the early 20th century have survived.
- Fruit-tree varieties are generally traditional, known by the owners.
- Historical ornamental shrubs may have survived (especially roses, lilacs).
- Many historical flowers are wintergreen (e.g. peonies, phlox's), but the varieties are unknown.
- Traditional summer flowers together with modern ones.
- A traditional herb, medicinal plant garden + modern varieties.
- Berry bushes, vegetables usually include contemporary varieties.
- Products, in particular, herbal teas, are often sold.
- Some sites cook traditional meals.

Plant collection gardens and museums:

- Created in different times, often recently.
- A large diversity of varieties, the owners have a good knowledge of them.

- THERE IS A STORY!
- A disadvantage – dendrological rarities, ornamental plants, herbs are usually collected, but seldom - fruit-trees, vegetables.
- In *Selonia* – 2 significant grape collections (in Vārnava, Dviete).
- The Institute of Horticulture (in Dobeles) – large collections of fruit plants, lilacs.
- Rose collection, a collection of fruit-plant varieties originating from Latvia and historical fruit-plant varieties will be planted in *Rundāle*.
- In *Dviete* (grape breeder P. Sukatnieks)
- In *Durbe* (fruit-grower S. Klevers)



What kind of garden plants can be found in our gardens?

- Apple-trees – almost everywhere.
- Pear-trees, cherry-trees, plum-trees – rarely and only a few varieties.
- Berry bushes – virtually no old varieties because of the shorter lifespan. A few gooseberries, currants, strawberries have been found.
- Rare fruit plants – grapes, hazel-trees, nut-trees, rowans, elder trees etc.
- Ornamental shrubs – almost everywhere, including old varieties, but they are often insufficiently tended and located in the shade.
- Flowers often include old biennials, but the owners do not know the varieties.
- Traditional summer flowers are planted.

- Herbs and medicinal plants – in collections and kitchen gardens.
- Vegetables – only in kitchen gardens: AN UNTAPPED OPPORTUNITY!

2.3. WHAT CAN WE FIND IN LITHUANIAN GARDENS?

In Lithuania, visitors are welcome to stop by orchards, gardens, parks and other locations where they can become acquainted with the traditions and history of Lithuanian horticulture and see varieties of fruit, vegetables, herbs, and ornamental trees, shrubs and flowers that are traditionally cultivated here. Places that cultivate traditional heritage varieties will introduce you to the history and application of these varieties and the achievements of local breeders. At ornamental gardens and parks, visitors can explore the landscapes and learn about the traditions of their formation.

Specialists from the Lithuanian Research Centre for Agriculture and Forestry Institute of Horticulture have inspected and evaluated the places where you can become acquainted with different heritage garden tourism products.

We have singled out the following places in Lithuania:

- Manors;
- Botanical gardens and parks;
- Museums;
- Rural tourism homesteads and farms;
- Various other sites.

Manor orchards:

- Established up until the beginning of the 20th century.
- Often neglected, fallen into decay or destroyed during the Soviet years.
- The history of the manor house and the surrounding park are usually provided.
- The Rokiškis Manor orchard has its own story. It was replanted after World War II in order to maintain the authenticity of the orchard that grew there previously. It is valuable from a pomological point of view.
- There are surviving fragments of orchards on the grounds of Burbiškis Manor.

Botanical gardens, gardens and parks:

- Established in the 20th century.
- Not only can you find a great diversity of heritage plant varieties and learn about history of Lithuanian horticulture, but you can also get advice on various matters.
- The Lithuanian heritage flowers at the Vytautas Magnus University Kaunas Botanical Garden are shown in different plant communities according to their botanical classification. More than 20 species of vegetables that have long been cultivated in Lithuanian gardens are grown in the educational garden.
- The garden plants at the Klaipėda University Botanical Garden are grown in the Medicinal and Herbal Plants and the Ethnographic Garden collections.
- The Šiauliai University Botanical Garden features three gardens of rural heirloom plants that are linked with different periods of time. Culinary herbs and spices and rare garden plants are grown in the Plant Systematics and Geography and Lithuanian Flora sections.



- The only school botanical garden in Lithuania, Traupis Botanical Garden provides the opportunity to see heritage culinary herbs and spices, garden plants, and collections of rare and protected plants.
- Izidorius Navidanskas Park (Žemaitija Botanical Park) was founded by a single person. It features a three-hectare apple orchard that was planted before World War II and contains apple varieties that have long been traditionally grown in Lithuania.

Museum orchards:

- Established from the 18th to 21st century.
- You can find surviving heritage fruit tree varieties. Many museums cultivate ornamental plants typical of a particular region of Lithuania.
- Each museum orchard has a history related to

famous Lithuanian people (Steponas Darius, Jonas Mačulis-Maironis, Professor Tadas Ivanauskas, Antanas Baranauskas, Antanas Vienuolis, Bronė Buivydaitė, Liudvika and Stanislovas Didžiuliai).

- Lithuanian traditions and history are relayed at the Open-Air Museum of Lithuania, the Kleboniškių Rural Household Museum, and the Baltic Plant Museum. The heritage plant varieties that they cultivate reflect the ornamental plant species assortment of Lithuanian heritage gardens; their flower gardens are made up of plants that are traditional to the particular region and introduce visitors to Lithuanian selective breeding crops.

Orchards and gardens at rural tourism homesteads and farms:

- Established in the 20th to 21st century. You can find heritage fruit tree varieties. However, rural tourism homesteads and farms usually grow vegetables, culinary herbs and spices, and medicinal plants.

- The owners of the Pakalnė Rural Tourism Homestead and the Beržoras Homestead cultivate garden plant collections; they have a large assortment of culinary herbs and spices and medicinal plants and hold plant-related classes.

- There is a 100-year-old orchard at the Loud Silence Homestead. The owner also grows culinary herbs and spices and ornamental plants. The homestead offers 'happy food' that is produced from everything that is grown on the farm.



- Giedrikai Farm grows vegetables and medicinal and culinary herbs for sale.
- The Jadvyga Balvočiūtė Farm grows various medicinal herbs and herbal plants used to make and sell tea and spices.

Various other sites, orchards and gardens:

- The Oldest Apple Tree in Lithuania – Lithuania's oldest apple tree and the only one that is protected, it is almost 360 years old and still yields fruit.

- The Lithuanian Research Centre for Agriculture and Forestry carries out both scientific and experimental/production activities. This institute grows Lithuanian fruits and vegetables, and uses them to produce healthy and natural products of exceptional quality.

- In order to preserve Žagarė's cultural and natural heritage and uniqueness, Žagarė Regional Park planted the Žagarė cherry orchard in 2011 on the bank of the Švėtė River on the edge of town.

- The grounds of the Japanese garden are home to a collection of traditional aromatic plants, as well as an orchard and a garden where heritage crop species are nurtured.



What plants can be found in our orchards?

- Apple trees – in just about every orchard.
- Pear, sour cherry and plum trees – rare, and only a few varieties.

- Medicinal and culinary herbs and spices – at farms, rural tourism homesteads, museum gardens and botanical gardens. At Lithuanian homesteads, you can become acquainted with the various medicinal and culinary herbs and spices that they grow as well as their medicinal properties. You can also taste and purchase them.

- Ornamental plants – at museums and botanical gardens. The ornamental plants that are cultivated are often traditional to the particular region of Lithuania, with their characteristic flower arrangements.

- Vegetables – at rural tourism homesteads, farms, botanical gardens and the Institute of Horticulture. Carrots, beetroot, cabbage, onions and other vegetables are grown in the garden plant collections. They can also be purchased.

2.4. HOW TO TURN A GARDEN INTO A TOURISM PRODUCT?

- A story is necessary:
 - ♦ when the garden was planted, who planted it, what grows there (varieties, species – if not known, then have to be identified).
 - ♦ the history of these plants (a lot of information is available on the internet!).
 - ♦ the meaning of these plants, for example:
 - ‘White Transparent’ – the most popular Latvian variety in the world, an excellent apple for cooking;
 - ‘Rheinischer Bohnapfel’ – a very old German variety with a particularly long shelf-life, suitable for making cider;
 - ‘Kazdanga’ cherries – a unique variety that is dying out.
 - The ‘Lietuvos cukrinis’ is a very rare apple tree in Lithuania which can only be found at heritage orchards.
 - Professor Tadas Ivanauskas created the Lithuanian apple variety ‘Vytis’.
 - Apples of the ‘Calville’ variety take on flavour after almost a year and are particularly suitable for drying.
 - Žagarė has long been known for its special species of cherry – the ‘Žagarvyšnė’, which to this day is grown in nearly every homestead in Žagarė and is something of a town symbol.
- Necessary improvements:
 - ♦ Carry out the improvements necessary for tourism.
 - ♦ Develop tree crowns.
 - ♦ Bring out of the shade, propagate, replant plants – in particular, old shrubs and biennials.
 - ♦ Place informative labels.
 - ♦ Develop a common garden style.
- Necessary additions:
 - ♦ Plant new historical plants, including the development of completely new plantations.
 - ♦ Additionally, exhibit vegetable, herb, flower plants and make them interesting.
- Offer products and their recipes:
 - ♦ You can prepare them even if you have a conventional garden with well-known varieties!



CONCLUSIONS

There are interesting historical gardens in Latvia and Lithuania, however:

- Latvia's and Lithuania's historical gardens are an untapped tourism object, there is no information about fruit and flower gardens, even in popular sites.
- It is necessary to identify the varieties growing in the gardens; experts have to be invited to identify ornamental plants.
- It is necessary to create an added value – an interesting story, labels, a map of the garden, beautiful scenery, products, recipes, etc.
- New historical fruit, vegetable, herb, flower and ornamental plant varieties have to be planted in the existing gardens.
- A common style of the garden has to be maintained or established.



3.

GARDEN PLANNING AND DEVELOPMENT



This chapter introduces the basic principles of garden planning and development applicable both to contemporary and historical gardens. Advice on garden planning and development will be useful for those planning to transform an existing garden or to create a new garden by planting historical varieties.

If you have decided to engage in rural tourism on your estate, you have to bear in mind that you will have to share your garden space with your visitors. It is great if we can separate our residential space from the space provided for tourists, but it is not always possible. By separating the territory, owners can protect their privacy and also keep a space for their leisure when guests have arrived. We respect our guests deeply but a constant flow of tourists is tiring and creates an extra burden for the garden. We have to think of the ways that we can turn the garden into a place providing leisure and joy for both us and our guests. We also shouldn't forget that a garden can be created as a separate tourism object. There is a special marketable product for tourists in the world – gardens. Often people want to make gardens a

part of their excursions and tours. Historical gardens and contemporary gardens both have their appeal, it is exciting to see every gardener's vision of their outdoor space. And it is also important to consider whether we are renewing a garden or creating a completely new farmstead or city garden.

The main thing is to define a goal that we want to achieve.

- Is it going to be our private space or a space provided for the relaxation of tourists?
- Will we separate the space allocated for tourists from the private garden area?
- How much of our private space in the garden will we allocate to tourists?
- What do we want to create for tourists?
- Are we going to offer accommodations and a beautiful farmstead and garden?
- Are we planning to offer the garden as a separate product?
- How much privacy and how much history will the garden provide?
- Who will be our main audience?

- In what seasons are we planning to receive guests? There are many different questions we have to find answers to during the planning stage.

If we want to restore or create a garden we are ready to open for tourists, then a perfectly mowed lawn will not be enough. People who are interested in gardens come to see the landscape we have created, they are interested in what we are growing and how do we care for the plants, why we have created exactly this garden, they have definitely visited many gardens and know what they are looking for. If we are also offering accommodations, in addition to the garden tour, with the help of garden planning and greenery we can create an original, comfortable garden space.

We are so accustomed to our outdoor space – garden that often it is difficult for us to give up the usual. We also don't see other options of what and how to change our garden. And frequently we don't think that we should invest our financial resources in the garden. But we need to remember that the garden is our first business card, that the garden can be something we can make a profit with.

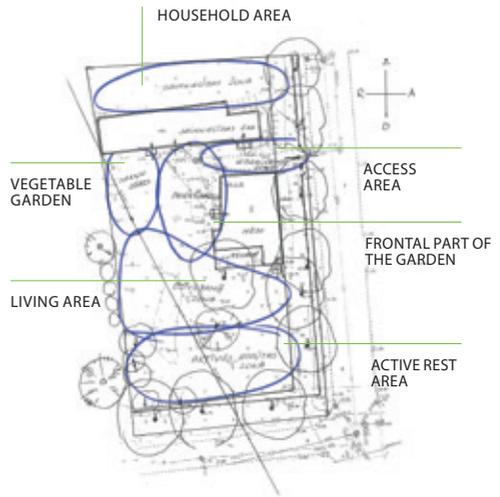
3.1. WHERE TO START? A SITUATION ANALYSIS

If we have clearly defined the target we want to reach then we can take up the practical issues.

First, we should find a plan of your land and take a general look at it from another perspective, considering it as a completely new property we have just acquired.

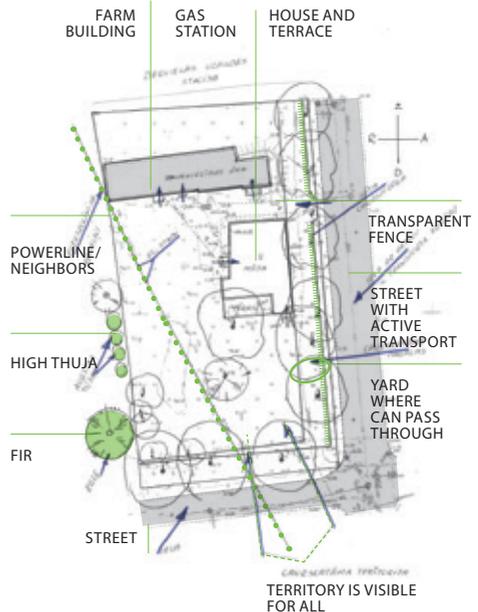
The land plan should also include all buildings and roads. If we have completed a construction project during the recent years, then you will probably have a very precise topographical plan of the land with all trees and bushes, wells and other objects marked. The plan also definitely indicates north and south because they are significant for the creation of garden. Morning sun, midday sun, evening sun – all these aspects determine the selection of plants, the spending of leisure and free time. You also probably know the direction of the prevailing winds; places where you can especially feel the wind. This is also important in planning the garden.

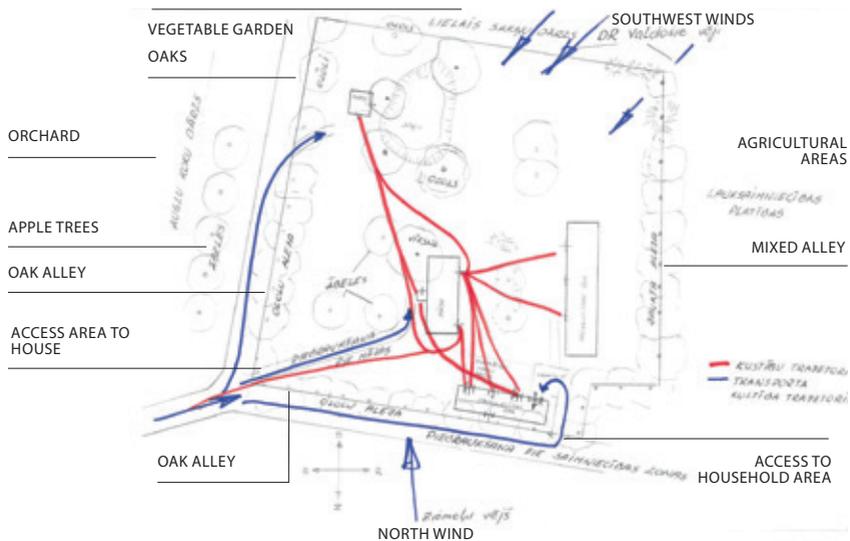
Yet another thing to consider is objects that are not



part of our property and we are not able to change them (neighbouring properties, industrial areas, rivers, lakes, forests, beautiful scenery etc.) that can help us or harm us.

And now we must take our plan and pencil, and start by determining the cardinal directions and





marking the directions where the wind is felt the most. We also mark on the plan the current entries into the property, gateways, parking places for cars, the front door of the house, household buildings, tourist accommodation places. We mark the trees and bushes we are determined to leave as they are. We don't only mark the trunk of the tree, but the whole radius of the tree's crown. The same with the bushes and the amount of space they take up in the garden. The diameter of large tree's crown can take up as much as 10 meters. We should take that into account because the root system is located in this part of the land and it is not always advisable or possible to plant something here, also it is not recommended to create paved roads, leaving a large part (or the whole) root system of the tree below the road. In our plan we mark the wells, electricity boxes, sewerage hatches, electricity poles and other objects with significant and unchangeable locations.

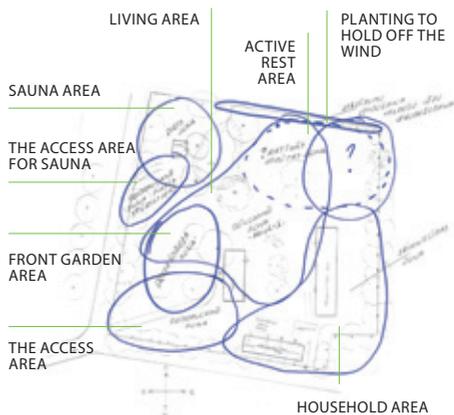
Then we must remember that a human being is lazy and always tries to get from point A to point B using as straight trajectory as possible. So in our plan we join moving from one object to another with as short curves as possible (for example, from the gate to the doors, from the house to the household building and the front doors of these buildings).

It is advisable to mark the daily trajectories we use

with different colours:

- on a regular basis, every day, several times,
- every day, but not much,
- rarely,
- very rarely.

It is also advisable to determine places in the territory that provide the most beautiful views of the surrounding area, the adjacent fields, forests and historical objects. We also mark these places in our plan with indicating lines. In the same way we mark places that are disturbing and are not advisable for the guests to see.



3.2. THE ZONING OF A GARDEN OR A FARMSTEAD

In order to move further and develop our plan for the garden or farmstead, let's see how can we plan our garden.

Just like in an indoor environment, various areas in the garden or farmstead also have specific functions. So let's look at our property as a space, as a house or apartment with clear functions for every place. The hallway – an access area to the garden, frontal part of the garden - first impression, living room – green area where we invite our guests and we like to spend time together, kitchen – recreation area with a table and grill, rooms – a children's playground, sports field, swimming areas, laundry drying areas, household areas. Since we will host tourists, then, thinking about these areas, we also need to consider their needs.

3.2.1. THE ACCESS AREA, FIRST IMPRESSIONS

Before we start the work, it is reasonable to evaluate our habits, practicality, necessities. The access area, also car parking places – are one of the areas where it is difficult for us to change our habits. If the family members are accustomed to driving up



to the entrance door of the house with their car, then maybe they will be willing to accept changes to the road but they definitely will not like that their car is parked further away from the house. One should also keep in mind that sometimes it is totally necessary to drive a car close to the house. There is also the habit of using one entrance door more frequently than the other. Sometimes we even use the planned main entrance door less often than the back door. Here the practicality, habits and laziness of a person also comes into play. If it is easier to access the back door with a car, then why should we take all our grocery bags and walk up to the main entrance door, even if it is only a few steps away. Also, during planning don't force your family to crucially change their habits and set rules.

3.2.2. LIVING AREA, REST AREA



You can't plan the rest area separately from the life of the house. Frequently the garden, farmstead living area is planned together with the rest area. While planning the place for gatherings in the garden, remember a significant truth - the further this rest area will be from kitchen, the rarer we will use it. In this situation usually a small table and chair - which we use for coffee breaks on a sunny day or during short visits of a guest - rapidly shows up close to the entrance door of the house. If we plan a rest area further from the house, we have to also foresee convenient access to it, not forgetting that we will have to carry both the dishes and the food. It is a pity if the established rest place is only a delight for the eyes and used solely for festive occasions, during the visits of special guests, but more convenient alternatives are found during everyday life. Nowadays the accessibility of an environment is



of great importance and it is good, if constructing a new house or rebuilding an existing one, if you have thought about connecting spaces - the interior of the house with the garden. It mainly relates to the unification of a living area, kitchen area with the outdoor space. It is good to plan a rest area that is near the living room or kitchen – terrace with garden furniture where you can relax during the summer, it is also important to have doors connecting these places. You can plan several rest areas in a larger country estate. If you have a big family and you have frequent get-togethers, events, parties, then it is advisable to consider a separate place for these activities. Then those who like to stay late at the festive table, will not disturb the ones who wish to rest. In your territory you can also plan separate rest areas by placing garden furniture in places with a beautiful view of the garden and the surrounding areas. Planning the rest areas and the greenery next to your house and garden, remember to provide unencumbered access from the rest area to the garden. Meaning that the guests do not have to step into a flower-bed, twist their ankle because they didn't notice the difference in height; make sure there is more than one entrance and exit from the pergola where everyone gathers. Also, when creating and constructing the rest area, plan for the possibility that guests can conveniently leave the table without disturbing other guests. So that when leaving the

table your guests, that have arrived in festive footwear, are not forced to stand on the grass (wearing shoes with stiletto heels, in grass wet from sudden rain or mud). Therefore, planning the rest area and knowing the size of the garden furniture, anticipate enough free space to move freely without stepping onto the grass. But if you are planning a rest area for relaxation closer to nature, then a roof protecting from sudden rain as well as the powerful rays of the sun, would be the main thing to consider. We have to remember the geographical location where we reside, the existing natural conditions, the length of the summer, the desire to be close to nature despite the rain. Also, if you really want to create a rest area in a convenient, beautiful but windy place, then consider how to create shelter from the wind for pleasant recreation. You can achieve it by creating a protective wall. It can be made of glass, polycarbonate plates, wood or greenery of a sufficient height. When constructing a rest area, try to avoid creating a draft through it.

3.2.3. A PLACE FOR A FIRE

When we relax in the garden, we like to have a barbecue, so don't forget about a campfire location and a grill. You can have both of these if the territory allows and it suits your lifestyle, but you can also have one of them, for example, a portable



grill. While planning this place think how it could be linked with the rest area because a barbecue is connected with relaxation and good time. Plan the campfire location in a sufficiently safe area, remembering the dominant wind direction, thus also the direction where sparks from the fire will fly. Also, consider that heat from the fire could damage the lawn and an unattractive space will form around the campfire location. The fire could also reach dry grass that has not been mowed, creating dangerous situations. When developing the campfire location, remember that it has to be safe and good looking when not in use. If you are thinking of using only a portable grill, then during the planning process also model possible locations of the grill.



3.2.4. WATER IN THE GARDEN, FARMSTEAD

Air, fire and water are elements of nature. Water has always played an integral part in historical gardens. Water is important for nature and for us. French, Italian, English, as well as Japanese and Chinese gardens are not complete without the presence of water. Manor gardens in Latvia also have large ponds, and so do our farmsteads. The sky reflects on the surface of the water and the water allows the sky to come into our garden. Water in the garden is a place



for peace and contemplation. In large territories a pond serves as a swimming area. Water adds a special value to properties located on the banks of lakes and rivers; and you can successfully use this factor in territory planning. People try to create pools, waterfalls and fountains even in small gardens. Thus, planning your farmstead or your city garden, make sure that water elements play a significant role in it; consider their location, the proximity to the rest area and to the house.

3.2.5. CHILDREN IN THE GARDEN - A CHILDREN'S PLAYGROUND

A children's playground is important not only to families with small children, but also to grandparents



whose grandchildren frequently visit them. Every owner can individually decide what elements to place in the children's playground, but a sandbox is the most important element. Nowadays there are many various children's playground elements available to climb or swing on. Good craftsmen can also build a playground for their children and grandchildren themselves. The main issue is where to put this children's playground on your land plot. Here you have to remember safety and the necessity to monitor what your children are doing. If we know that mothers spend a considerable amount of time in the kitchen, then it would be beneficial to locate the playground in a place she could see it from the kitchen window. Also, we spend a lot of time in the rest area and if the parents are outside, then the children will also not sit inside the house. It is good if you can see the children's playground from the rest area. Definitely consider the amount of sun in this place. It is not recommended to plan the children's playground on the northern side, in a windy place. Also, do not locate the children's playground in close proximity to water-reservoirs. There is a period of time when the children's playground is not needed any more, but it is only for a while until the next generation comes. Every owner can decide for themselves what to do with the children's playground during this time.

3.2.6. RECREATION OPTIONS - AREAS FOR PEACEFUL AND ACTIVE RECREATION

- Sauna;
- Swimming areas;
- Boat trips;
- Sports grounds – volleyball, basketball, soccer etc;

- Open gymnastics equipment – outdoor training devices, parallel bars, a pull-up bar;
- Walking paths;
- Skiing and skating during winter.

There is usually a separately located bathhouse in the farmsteads that both the family and tourists like to enjoy in every season. The bathhouse experience is a purification process - both physically and mentally. Thus it is recommended to create the bathhouse, together with an outdoor area, in a very thought-out way, especially if tourists are also going to use it. Here you need to create sufficient intimacy and not make this place visible from all the viewpoints in the territory. Also remember that the bathhouse is used in any weather conditions, so pay special attention to the access to the bathhouse. Make sure guests don't have to cross a muddy area or that the created path does not become covered with ice in the winter. Also, pay special attention to having a special selection of herbs and plants growing by the bathhouse. Here you can grow various herbs for the needs of the bathhouse, plants for health, aromatic herbs, teas.

Frequently, for the purposes of tourist relaxation and organizing of get-togethers, there is a specially constructed building with a hall for celebrations adjacent to the bathhouse. This situation has arisen because of requests by the guests, and thus owners have to consider how to create a functional garden space comfortable for both guests in evening gowns and people wanting to enjoy the bathhouse. If the territory is spacious enough and the family enjoys active recreation, then you can also create a place for these activities – a sports ground. Also if the territory is located next to water bodies, you can plan swimming areas and boat trips. Please create every active recreation option with



thorough consideration and by answering several questions in advance. How much space will it take



up, how many people will be there, is it required to separate the active recreation territory from the rest of territory, do you need to plan rest areas for pauses between the sports activities, what kind of surface to use, how will all this fit into the joint style of the garden, where the tools necessary for the activities will be stored (for example, boats, novus tables), what is the safety level of these activity places. For the optimal planning of the territory you need to know the answers to these questions and many others.

3.2.7. THE HOUSEHOLD AREA

The household area is one of the most important areas of our garden or farmstead; as this area provides everything for the smooth running of our household. Here we have household buildings, stands for equipment, auxiliary rooms for storage and rooms for repair work. This is the area where the vegetable garden will be located, as well as the domestic birds and animals, if they are also part of the household. There can be several household areas within the territory. We have to seriously consider how much of this area we plan to show our guests – tourists.

There are things they might be interested in – how the animals and birds live, what we are growing, but there are things they definitely need not see and know about – where we dry our laundry, where we keep our phytosanitary products, how we protect our equipment etc. Therefore we have to consider all these aspects while planning the territory - what part of it and to what extent will we show it to our guests.

3.2.8. WASTE, COMPOST PILES

This area is an indispensable part of every territory, be it a city garden or a farmstead, and we have to consider it in connection with the household area. Many owners of private houses can regulate the amount of their waste but we will still have waste in any case. So there is a need for waste bins and compost piles in our territories. Many times special waste bins are placed right next to the access road of the house, allowing the trash collecting car to comfortably pick up the trash; but this placement damages the view in this area. Thus it is important to consider the placement of trash bins and possible ways to hide them. If the trash bin and compost pile is placed in the household area, then they have to be inconspicuous. Trash bins should also be placed separately in the area for tourists. And here it would also not be good, if they are openly visible. If the tourist area is large, place several small, simple trash bins in it.

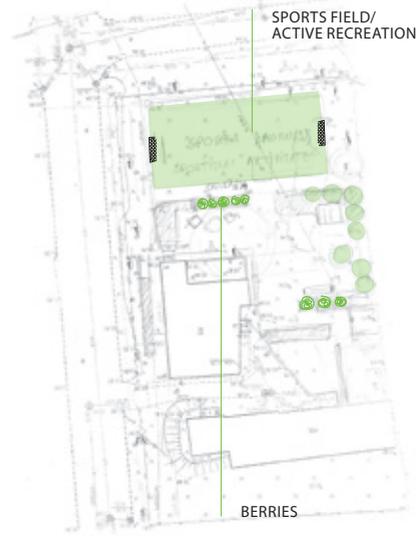


3.3. PRACTICAL WORK – ZONING IN OUR LAND PLAN

Let's return to our land plan.

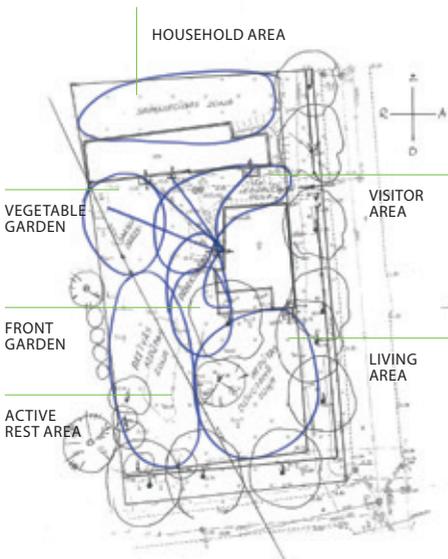
Evaluating our various desires and needs and knowing that our outdoor space creates various areas, we need to put all this in our plan in a schematic manner. If the rooms inside the house are clear in the plans because each room is divided by a wall, then in the land plan we will have areas with an approximate border and it can also overlap. We can theoretically mark each area with a circle, indicating the territory, place and function of the particular part of the garden space. Do not forget the sun, wind, privacy and how open or restricted this area should be from the other areas.

Our land plan will resemble a drawing of clouds. Do not be afraid to draw, strikeout, erase, all of this will help you to analyse your territory. During this process you can change the location of various areas, and find the optimal solution for the practical use of your territory. This is the time when you can freely construct, dream and create. While drawing and planning, remember the goals you want to reach. Also consider how practically one area will transform into another, what is the distance from one area to another, how can we access one area from another, what else we can change in the territory



of our land, what is totally unchangeable, what is planned for tourists and what is planned for us.

When we have reached a zoning of our land we are happy with, then we can start thinking about how we will create every area to be cosy, functional and with an interesting designed. What materials, architectural elements and plants should we use to reach this goal.



3.4. GARDEN ARCHITECTURE AND GREENERY



3.4.1. GARDEN ARCHITECTURE

It is formed by many parts of the garden that merge into a unified wholeness:

- The access road
- A sign with the name of the house
- Pathways
- Terraces
- Lean-tos
- Arbours
- Pergolas
- Supporting walls
- Sports ground inventory
- Fences
- Wells
- Garden furniture
- Design elements
- Sprinkler systems
- Garden lighting
- Trash bins
- Campfire location
- Grill

Looking at any of these elements, the owners have to also consider functionality, the selection of materials, the relation of these materials with

the environment, service life and the quality of materials. Keep in mind that there will also be work related to maintenance and cleaning. Of course, the financial side is an integral component. You can't plan your garden or farmstead isolating it from the planned financial resources.





3.4.2. GREENERY

The main questions to ask when thinking about greenery:

- Where to create planting beds?
- What should they look like?
- What do I need to plant?

In order to find answers to these questions, some attend courses, others invite specialists or apply practical knowledge acquired during their life, are inspired by the photos and nature, yet some rely on their intuition. You require knowledge to obtain good results in your garden.

In a nutshell - statements to consider while planning greenery:

- Choosing plants for the planned territories, remember that the further from house, the larger the plants, the bigger groups of plants and patches of colour. The closer to the house, the more you can use smaller size plants. If your dream is a rock garden, then definitely plan it closer to the house, as it can lose its significance if placed at a large distance.
- Create groups of greenery with purpose. They can serve as a dividing area between different garden areas. With a group of greenery you can also limit the visibility of territory. Groups of plants in separate garden areas serve as a decorative element. A group of plants can create the necessary shading. Greenery can serve as an indicator of the direction we have to go.

- Evaluate, do you really need to renovate the historical alley by planting new trees between the old trees as the created alley of trees will never be uniform. New trees often grow lanky, they are not able to compete with the old trees neither as to their height, nor the distribution of the root system that feeds the tree, meaning that the diameter of the trees will never be similar. And will we have a beautiful alley as a result?

- Creating the greenery, we have to consider the time we can devote to care for it.
- Consider the assortment of plants – cold resistance, local ecology, blooming periods, size of flowers, fragrance, decorativeness of plants, height (after 5, 10 years), size, compatibility with other plants in the group, suitability to the particular location (allergic, poisonous plants, plants with thorns), etc.
- Thoroughly consider the places you plant large trees, their distance from one another, from buildings, roads. Every tree needs its space for favourable growth. It is difficult to replant large ligneous plants. If you doubt the correct selection of a place, you can put a large stick into the planned place and observe how this location relates to your plans. Do not forget

that the tree will grow in both width and height, it will create shadow, obscure the view but probably children will be the ones observing its real grandeur. So as not to put your children in a position of cut-



ting down the trees their beloved parents planted, we have to select the place where we plant the trees very carefully.

- Don't plant large trees, ligneous plants or varietal large bushes in „red“ line areas. Frequently these can be found in the plans of urban land plots, showing areas where construction is prohibited. Also, large plants are quite fundamental and can't always be replanted. We have to plant thoughtfully in order to avoid tragedies related to the liquidation of plants. The same relates to power lines.

- Garden lighting is an important thing that has to be planned in advance. We should consider:
 - w Are we going to have it?
 - w In which places?
 - w How high?
 - w Where does it switch on, how does it operate?
 - w Does it switch on with sensors?

This is important because electrical installations will go below the grass, below the planting beds and



they need to be dug in at the beginning of work so as not to later spoil the created lawn, the planting beds and the path's surface

- Restoring a historic garden, you have to evaluate which plants are truly valuable and which have seeded themselves and grown arbitrarily. Just like in a flowerbed, we will ruthlessly get rid of weeds, and in the ligneous greenery we also have to get rid of intruding plants.
- The lawn is an inseparable element of every garden. We want it to be beautiful so the other green areas stand out on its background. But maybe in



large areas we don't need to go overboard with regular mowing of the lawn and leave blooming meadows in some places that are mowed once or twice a season. We can mow only separate paths that take us through the meadow to a specific place.

- We can plant bulb flowers that blossom in the spring to have the lawn delight us with colours in spring. Crocuses even manage to finish blossoming before we have to mow the lawn.
- Creating green areas, it is good to develop wide, uniform green areas. It will make the tending of plants easier as we don't need to form a tree bed around every plant.
- Sometimes our planting beds create crooked lines. Creating these lines, we have to consider how convenient it will be to go between them with mowing equipment.



4.

GARDEN TENDING AND CULTIVATION

This chapter covers fruits, vegetables, herbs and decorative plants. Here we review the most important principles that need to be observed when tending to and reconstructing old orchards and creating new orchards. The most important recommendations in a nutshell for the tending to vegetables, herbs and decorative plants.

4.1. TENDING TO OLD ORCHARDS

Frequently the condition of the trees is not optimal in old orchards. The trees are not trimmed and modelled properly and sometimes not at all, thus pests and diseases are not conquered. The grass is not mowed regularly. The following activities are required to raise the historical value of gardens:

- ① Cut down valueless trees and bushes.
- ② After evaluating the health and historical value of the trees, cut down strongly damaged and valueless fruit-trees.
- ③ Trim and scrupulously model the remaining trees into the desired shape, maintaining the natural shape of the tree's crown. Trim dry, diseased and heavily bent branches. Thin out branches inside the tree's crown. Trim the vertically growing branches up to the horizontal side sprout which grows in the desired direction. Trim the horizontal lateral branches if they mess up the symmetry of the crown.
- ④ To obtain a high quality harvest, reduce the crowns by a third or even a half. Important: these trees need to be in the rich harvest period, not too old, with a sufficient number of branches on the lower part of the crown. The trimmed trees need to be shaped (thinned out) every year or even twice a year; you should do it in the spring and in August.
- ⑤ For valuable trees that have hollows, clean the grooves and disinfect with a copper preparation. In some cases use concrete to fill in large grooves. Use organic products or lime to protect the trunk and lower branches, or use light paint with added chemicals; this should be done in the late autumn or at the beginning of winter.
- ⑥ Mow the grass in the garden at least 4 to 6 times



a season. Mulch the trees with the mowed grass or peat in a 1 m radius around the trunk. Around large, old trees only mow the grass.

- ⑦ Fertilize trees in the autumn with potassium and phosphorus fertilizers (150-200 g potassium chloride and superphosphate per tree/ m²) and in the spring with nitrogen (200 g ammonium nitrate). Spread the fertilizer evenly in the tree's crown area.
- ⑧ Follow the development of pests and diseases and perform the required plant protection activities.

4.2. RECONSTRUCTION OF AN ORCHARD AND CARING FOR NEW TREES

To enrich existing collections with new trees, perform the following activities:

- ① Take away valueless old trees from the garden, digging them out or cutting them down to the ground level.
- ② Plant new trees in places without high ground-water.
- ③ If you plant trees in the location of the old orchard, dig a large planting hole and fill it with fresh

soil from the places where fruit trees have never grown and add organic or mineral fertilizers.

④ For planting use two-year-old, well branched trees for fruit trees from seeds or one-year-old plants for fruit trees from pits. They should be augmented on the medium or strong built crab-stocks: for apple trees B.118, MM.106 and seedling crab-stocks; for pear trees 'Mostbirne' or seedling crab-stocks; plums and apricots for Caucasian plum *Prunus cerasifera* seedlings; for apricots definitely with the house prune vaccine; for sour and sweet cherry seedlings of the aromatic cherry *Prunus mahaleb*; plant the latter in the driest part of the garden.

⑤ The mesh aperture par of apple trees, pear trees or cherry trees while planting has to be 10 to 20 cm above the soil, except the root stocks of seedlings, but for plums on the soil level.

⑥ Plant apple trees in the autumn, but all other trees in the spring. Water and mulch the trees right after planting. Trim plants only in the spring, regardless of when they were planted.

⑦ Follow the development of pests and diseases and perform the required plant protection activities. Protect new trees from mice, deer and rabbits.

4.3. THE GROWING OF VEGETABLES

Root vegetables (carrots, red beets, turnips, Swedish turnips, horseradish, parsnip, radish, black radish, celery)

The optimum temperature for the sprouting of seeds is 15 – 20 °C. The largest amount of moisture is required during the root formation period. The most suitable are sandy loam and loamy soil with a soil reaction of pH 5.5 – 7.0. During the sprouting and at the beginning of the root formation period plants require the optimal amount of phosphorus in the soil. Most trace elements, especially nitrogen, are needed by root vegetables for the formation of leaves and roots, and the trace elements - boron, iron, manganese and sulfur are needed during the root maturing period. In the second half of the summer mineral fertilizers are used providing N60-90 P90-120 K160-200. You can grow the same species of vegetables repeatedly in the same place after three to four years.

Sow most of the vegetables (carrots, red beets, turnips, Swedish turnips) from April to June, 1.5 – 2.5 cm deep depending on the heaviness of soil – closer to

the surface in heavier soil, but deeper in lighter soil. Radishes are grown both on the field and in greenhouses. The optimum sowing season on the field is the beginning of April for an early harvest and the second half of August for the autumn harvest.

Turnips are fast growing, you can have two harvests per year, if you sow in April and the beginning of July.

Sow black radishes in the early spring, sow winter radishes in the middle or second half of June.

Celery has a long vegetation period – on average 160 – 180 days but for the late species up to 210 days. Sow seedlings in the middle of March, plant out in the second half of May.

Prepare horseradish sprouts in the autumn and plant out in the field in April. Leave the upper buds for the seedlings, scald off the rest.

Allium genus vegetables (onions, garlic, leeks, chives)

The most suitable soils for the allium genus vegetables are medium heavy loamy soil or sandy loam soils, rich in organic substances. The optimal reaction of the soil is pH 6 – 7. You can grow repeatedly in the same place after three to four years. You can grow chives in the same place for 3 – 4 years. Fertilize the soil before cultivation, $N_{90}P_{90-120}K_{120-160}$. Additional fertilizing is recommended for the chives after harvesting.

Plant onions and garlic for the family from bulbs and cloves. Plant onions for the family during the first decade of May. The most suitable time for the planting of winter garlic is the 1st and 2nd decade of October. Plant summer garlic in the spring when the soil is ready for cultivation. To grow leeks use seedlings that have been growing for 50 to 60 days. The second to third decade of May is an optimum time for the planting out of seedlings. Sow chives in the spring or the middle of the summer. It is important during the vegetation period to pluck the stems from garlic and chives to promote the formation of heads for the garlic and vegetative growth for the chives. Harvest spring onions from the family onions 35 to 50 days after planting out. Harvest onions and garlic when 80% of the tops are dry and



fallen off. Harvest winter garlic during the 2nd to 3rd decade of July. Leeks are resistant to frost and even slight cold, therefore you can gather them late in autumn. Cut spring onions from chives three to four times during the vegetation period when they are 20 to 30 cm long.

Legumes (kidney beans, broad beans, peas, lentils)

The most suitable soil for legumes is soil with a neutral reaction (pH 6-7.5) and rich in organic substances. It is recommended not to grow them in one place for at least three to four years. Fertilizing norm $N_{40-50}, P_{90}, K_{120-140}$. It is necessary to apply the nitrogen fertilizer before sowing or at the beginning of the sprouting of the plants. Broad beans require magnesium, boron and molybdenum. Give calcium and potassium to peas during Autumn when preparing the field.

Kidney beans and lentils are sensitive to frost. Sow during the second to third decade of May when the soil has warmed up to +10–12 OC. Sow peas and broad beans in the first decade of April. Use supports for peas if necessary. After sowing provide a cover for the legumes to avert damage caused by birds.

Gather the harvest of kidney beans when they are

ripe and the pods have become yellow. You can also gather kidney beans when they are not ripe or wait until they are completely ripe – the pods have become black, dry. Beware of the opening of pods and the scattering of seeds. If you want to consume fresh peas, gather them when they are not completely ripe.

Leafy vegetables (parsley, celery, dill, rhubarb, sorrel)

Grow the celery and dill in moist, thoroughly treated soil with neutral soil reaction. For fertilizing use $N_{80-100}, P_{90}, K_{100-140}$. It is recommended to use stable manure in the growing of rhubarb. Sow celery and dill during the first decade of April. Augment rhubarb with seeds or by splitting shrubs vegetatively, plant them in the spring or the second half of the summer so they can grow into soil. Sow sorrel early in the spring or at the beginning of June. Leafy vegetables are sensitive to moisture and the lack of Ca in the soil. Dry soil needs watering. Remove the flowerheads from rhubarbs during vegetation. During the season you can harvest leafy vegetables several times. Rhubarbs are harvested the second year after planting out, in the 2nd to 3rd decade of May.

Fruit-vegetables (cucumbers)

Suitable are loam or light clay soils rich in organic substances and with a neutral soil reaction. You can

repeatedly grow in the same place after 2 to 3 years. It is recommended to combine organic and mineral fertilization. Fertilization norm $N_{70-90}P_{80-120}K_{120-140}$. Sow during the 2nd decade of May.

Tuber vegetables (Jerusalem artichokes and potatoes)

The most suitable soil for potatoes and Jerusalem artichokes is loam or light clay soils with a soil reaction of pH 6 - 6.5. You can repeatedly grow potatoes in the same place after 4 - 5 years. In the autumn work stable manure or compost into the ground.

Jerusalem artichokes can grow in one place for up to 10 - 15 years. Work in nitrogen fertilizer in the spring, phosphorus and potassium in the autumn. Cultivate potatoes and Jerusalem artichokes vegetatively. Plant potatoes during the 3rd decade of April - 1st decade of May, Jerusalem artichokes at the end of October, beginning of November or the spring. You can gather the highest harvest from plants that are 3 to 6 years old. Pick the tubers from November to April. You can pick them during the spring before the new stems sprout.

4.4. THE GROWING OF HERBS

Grow one-year herbs like poppies, coriander, cornflower, sunflower, lovage, chicory mostly in loam or light clay soil. Sow poppies and coriander in April and May. You can sow cornflowers or sunflowers directly on the field or grow them from seedlings. A sufficient amount of moisture is essential during the beginning of growth. Gather poppy pods when 50% are ripe but coriander and sunflower - when they are completely ripe. Gather cornflowers when they have reached technical readiness.

Lovage is a perennial herb you can grow in one place for 6 or more years. You can cultivate it with



seeds, seedlings or vegetatively. Sow in the autumn at the end of October. For growing seedlings, sow early in spring, plant out at the end of April. October or early spring are the most suitable times when you can multiply plants with rhizome. Gather leaves of lovage from June to September.

Chicory is a two-year plant. The leaves and roots are used as food. Gather roots in October and November, leaves - in the spring. Multiply with seeds.

4.5. TENDING TO DECORATIVE PLANTS

Traditionally decorative plants are planted in the garden on the southern side of the house. The southeast and southwest are also suitable. Plants need fertile soil with good aeration.

Sow one year plants directly on the field. Frost resistant plants: sow medical calendula (*Calendula officinalis* L.), sweet peas (*Lathyrus odoratus* L.) at the end of April but plants that are not resistant to frost: medical sage (*Salvia officinalis* L.), resedas (*Reseda odorata* L.) - at end of May or the beginning of June.



Multiply asters (*Callistephus chinensis* L.), French marigolds (*Tagetes patula* L.) and Indian Balsam (*Impatiens balsamina* L.) with seedlings, plant out later.

Multiply perennial decorative plants like southern-wood (*Artemisia abrotanum* L.), daylilies (*Hemerocallis fulva* L.), periwinkle (*Vinca minor* L.), phlox (*Plox paniculata* L.), rudbeckia (*Rudbeckia laciniata* L.) vegetatively. Multiply other perennial decorative plants, like sand catchfly (*Lychnis chalconica* L.), hollyhock (*Alcea rosea* L.), common rue (*Ruta graveolens* L.) with seedlings.

Multiply lilies (*Lilium candidum* L., *Lilium bulbiferum* L., *Lilium lancifolium* L.) with bulbs and plant in August - September. This time is also suitable to multiply (divide) and plant peonies (*Paeonia officinalis* L. and *Paeonia lactiflora* Pall.).

In October plant flower bulbs, tulips (*Tulipa gesneriana* L., *Tulipa sylvestris* L.), daffodils (*Narcissus poeticus* L.), snowdrops (*Galanthus nivalis* L.).

Plant the primula (*Primula*) family of flowers and lily of the valley (*Convallaria majalis* L.) in shadow filled places under decorative bushes, sweet briars (*Rosa alba* L.), lilac (*Syringa vulgaris* L.), black elderflower (*Sambucus nigra* L.), philadelphus (*Philadelphus coronarius* L.).

Perform the limiting of weeds, watering, loosening

of soil, fertilization upon necessity. Tie up large plants, remove old flowers and seeds.

Before the winter, plants that are not frost resistant: dicentra (*Dicentra spectabilis* L.), lavender (*Lavandula angustifolia* Mill.) must be covered with leaves, straw or the branches of coniferous trees.



5.

HOW TO PREPARE THE GARDEN FOR VISITORS



"Billites" historical garden

5.1. WHAT IS YOUR GARDEN TOURISM PRODUCT?

To include an orchard in the tourism offer and create a tourism product, you need to specify several basic issues important for visitors:

- the product name and description,
- specific farmstead visiting hours,
- type of visit: only groups (size of group) or also individual visitors,
- set prices for all the services and products you offer to your visitors.

These basic things will provide a clear perception of what the experience will be for visitors to your farmstead. Accuracy in the description and the details provided will help to plan a holiday trip and the decision to choose exactly your farmstead as a destination.

The important first steps in planning:

- ① Decide what offer you want to create for tourists, for example, an excursion in the garden and farmstead, the tasting and purchase of fruits and produce, demonstration of the working process, joint work etc.
- ② Find good examples both in Latvia and abroad – look for information available on the internet, use a chance to participate in experience exchange trips, visit other farms and learn from them what you want to include in your farm experience or find out what you would definitely want to do differently.
- ③ Delegate responsibilities – which of your employees or family will deal with the visitors – answer calls and e-mails, receive applications to visit, lead excursions, deal with marketing and finances and other issues related to the reception of guests.
- ④ Make calculations, determine prices. Costs related to receiving visitors should not exceed income. Calculate a reasonable price for a visit/excursion, including fees for working hours, preparation costs, costs of the required materials etc. Also calculate the minimum and maximum amount of visitors you will be able to receive at the same time.

The most frequent mistakes in the hosting of visitors:

- It is not sufficiently planned how to divide the time between household work and the receiving of visitors. As a result, time is lacking and visitors are

perceived as a disturbance.

- The purpose of receiving guests is not clear – extra profit or the promotion of the farmstead, thus the offer provided to visitors has not been developed precisely.
- There is a lack in understanding in regard to the needs of visitors, the household is not oriented toward visitors, for example, it is hard to reach the owners or the answers to e-mails are delayed.
- There is not a set time for the excursion around the farmstead - the stories of the owner are too long and detailed.
- The surrounding areas or yard of the farmstead is not put in order.

5.2. HOW TO COMMUNICATE THE GARDEN TO VISITORS

- You can prepare various printed materials depending on the aim and available resources for visitors to take with them and spread information about your farmstead further. These can be business cards, postcards, advertising brochures, descriptions of the produce of the farmstead, souvenirs.
- It is more exciting for the visitors if they can read part of the information on stands or posters. For



example, you can display a short history of the farmstead on the stands, a description of the produce and other practical information. Provide information about the most important plant species and varieties, adding photos.

- Depending on the profile of the garden, you need to place schematic maps and put labels near the plants showing the name of the species in Latvian and its scientific (Latin) name so that guests can freely communicate with the garden.

5.2.1. MAPS AND INFORMATION STANDS IN GARDEN TERRITORIES

- A map is an essential, informative and all-encompassing material for garden tours. It can be used as a spatial instruction in the environment, as well as a print material. Paper maps can also be used as brochures that offer an idea about the type of garden and the plants that are found there (fruit trees, rare fruit trees, ornamental bushes, flowers herbs, medicinal plants and vegetables) historical facts, breeds that can be found and stories about their origin and characteristics.
- A territory map helps people to orienteer themselves if gardens and the territory are large.
- The territory map must clearly show what is on offer in the garden, e.g., using various colours to



denote types of plants and special and rare plants. Graphic symbols can indicate picnic and leisure locations, viewing areas, tasting places, shops, lavatories, car parks and the desirable route that makes it possible to learn about the garden in the best way. The map should also show the location of the tourist, as well as the best place to start the tour of the garden ("Start here," "I am here," or "The start of the tour").

- The garden should also have information stands with interesting facts, thematic stories, educational information, practical advice, information about the history of the garden, etc.
- It is important to present the information in various languages. The minimum number of languages is Latvian and English.

5.2.2. DIRECTION INDICATORS IN THE GARDEN TERRITORY

- These indicators are meant to show the offer of the specific garden and to help visitors to reach their destinations without getting lost. The information must be legible from a fairly far distance.
- The indicators can have the same design and concept as the territory map of the garden (e.g., using a tree for all indicators, as well as unified gardens and fonts).





The audio guide for the Gardening Institute, with an audio story and a visual application



5.2.3. INFORMATIVE LABELS AND INTERACTIVE INSTRUCTIONS RELATED TO TYPES OF PLANTS

- Informative labels are of key importance in helping people to learn about the types of plants. The labels can be of various sizes, content and fastening, depending on where the plant is found. Individual labels can be placed alongside the plant, sticking them into the earth or putting them on the branches of the plant. Orchards and flowerbeds can have unified information labels about the plants and their types.
- The table can include the name of the plant, its Latin name, the seasonal development of the plant (particularly if it is a fruit tree so that the fruit can be seen), as well as a brief story about the plant and its usage. This is particularly important for herbs and medicinal plants. It is important to present this information at least in Latvian and English.
- Of great importance today is the availability of content on various digital platforms. You can prepare interactive labels and instructions with QR codes, Internet domains that allow people to find more information about the plant, etc. Mobile apps can also be used to offer audio that provides deeper information about the plant.
- Labels should be made of durable materials that can handle humidity, cold and heat. It is important to make sure that the labels can be cleaned and



restored for each season. When fastening the labels on the branches of a tree or bush, make sure that you use cords or wires that do not damage the branches and are durable during strong windstorms.

5.2.4. LIMITING SIGNS AND INSTRUCTIONS

- Areas in the garden that are meant only for employees and owners should be bordered so that visitors are informed about this and do not visit them. Such signs and instructions also are an indicator of the culture and internal communications of the garden.



- Signs which tell visitors what they are not allowed to do must be clear and understandable, preferably with symbols, images and a sense of humour.

5.2.5. ACCESSIBILITY FOR PEOPLE WITH SPECIAL NEEDS

- A key element of a modern and sustainable tourism destination is accessibility for people with special needs. The garden will have added value if it is accessible to people in wheelchairs, as well as people with vision or hearing loss.

5.2.6. REFUSE BINS

- Each owner must ensure orderliness in the garden. Refuse bins will help to keep the garden clean, particularly if large tourist groups visit the garden simultaneously.

5.2.7. RESPONSE AND GUESTBOOKS

- Provide a book where visitors can write down their impressions, thanks or observations about what they saw. That can provide ideas to the owners in terms of developing the garden. This also welcomes thanks for the work that has been done in organising the garden.

5.2.8. BUSINESS CARDS

- Business cards contain the contact information of the venue and its owner. This is the fundamental way of establishing new contacts and to learn about others.
- The standard dimensions of a business card are 90x50 mm, and, it can have information on one or both sides.
- This is the main information that should be included in a business card: The name of the venue, the address, the phone number with the national dialling code, the E-mail address, the homepage (if any) and/or social network addresses. The business card can also have information about what can be found at the garden -- an orchard, rare fruit trees, ornamental bushes, flowers, herbs, medicinal plants and/or vegetables.
- You can present information on the business card in Latvian and English.

5.2.9. POSTCARDS

- Postcards provide information about the garden and can be a souvenir. You can prepare postcards about special or rare plants in the garden, as well as about the landscape, flowerbeds, seasonal appearance, etc.
- The standard dimensions of a postcard are 148x100 mm, and there is usually an image on one side and information on the other side, including historical facts, the name of the plant, etc. Make sure to include the contact information for your venue.
- You can present information on the postcard in Latvian and English.

5.3. AN EXCURSION HOSTED BY THE OWNER OR A GUIDE - HOW TO CREATE IT

- Plan the excursion time. It is desirable for the excursion to not exceed an hour because it will be difficult to maintain the attention and interest of the visitors if the excursion is longer.
- Introduce yourself when you start the excursion. Explain how long the excursion will be and what the visitors will see. Tell them the most important information about the farm at the beginning of the excursion while everyone is together, as in the course of the excursion people can separate from the group.
- You can show a presentation or a video to introduce guests to yourself and the farm.
- It is recommended that the person who meets guests and/or leads the excursion wears something related to the craft or trade you will talk about in their clothing. It makes the image of the farmstead more colourful and is interesting for guests.
- If it is planned to show the manufacturing/craft/food making process, the owner can be dressed in working clothes, but the clothing must be aesthetic and neat.
- The owner or the employee of the household who receives guests should be well-groomed and observes personal hygiene.
- If it is a larger farm and an employee of the farm leads the excursion, it is advisable for him/her to have some distinguishing sign, for example, a tag with their name and occupation (farm guide, etc.), a T-shirt, cap or other clothing element with a symbol of the farm.

- Be sensitive to the mood and interests of the visitors and depending on that, improvise, if circumstances allow. Do not tire out your visitors with long stories or insignificant technical details if you don't see specific interest from the visitors about the particular subject.
- A tasting or the purchase of produce and souvenirs are usually offered at the end of excursion.
- Provide a chance to ask questions during the excursion and also at the end of the excursion.

5.4. PRESENTATION - A STORY WITH A SLIDESHOW

Before the excursion you can provide a short introduction about the farm, using a PP presentation. Recommendations for creating a short presentation:



1. SLIDE

- Logo/photo of the farm
- The name of the farm
- The name of the tourism object

A Laconic, short title which illustrates content and offer of the tourism product, providing info about the place, farm.



2. SLIDE

About yourself (3 minutes)

- Are you an owner or employee?
- How long have you/your family worked on this farm?
- Other important information about you.

If it is your family's farm, you can begin the presentation with a personal, heartfelt story about the family's traditions, the decision to start a farm, the joint work of the family. If possible, also include some humorous story about how it all started, how it all went in the beginning. Refrain from naming too many years, providing long historical stories, difficult terminologies and too-detailed descriptions of various nuances.

3. SLIDE

About the farm (5 minutes)

- What does the farm do in general?
- What are the main descriptive parameters?
- What is unique, significant? What are you proud of?
- What are the next plans and challenges of farming, development?

Select a few main parameters to describe your farm, for example, the number of fruit trees, the size, activities in the cultivating of species etc. If the farm has a significant achievement on the Latvian or international level, definitely tell the visitors.

4. SLIDE

About products (10 minutes)

- The most important and special species you grow in the farm, characterise them.
- The assortment of produce - if you also provide processed produce.
- The growing, gathering and storing of the harvest.
- The usage and value of your garden's produce, for example, beautiful, healthy, excellent taste traits, resistant to harmful conditions etc.

You can supplement this part of the story with representative materials or practical demonstrations. You can ask questions of visitors to find out their knowledge, interests and desires.

5. SLIDE

On the purchase of produce (2 minutes)

- Where is the produce sold on daily basis?
- How can the visitors purchase produce after the excursion or at other times?
- What are the purchase conditions, working hours, seasons?
- What else do you sell? (Souvenirs?)

It is recommended to provide discounts or bonuses for the produce sold directly on the farm.

6. SLIDE

About the excursion, about safety (3 minutes)

- What the guests will be able to see/try during the excursion?
- What is the order of the excursion?
- What are the safety preconditions?
- What will they be able to purchase after the excursion? Souvenirs? Produce?

As much as possible, make the visit visually interesting for the guests, think about the places where guests could take the best pictures. Organize the room and the surroundings to make sure that the demonstration is easily seen.

7. SLIDE

The end of the excursion (3-5 minutes)

- Do guests have any questions after the excursion through the farm?
- What additional excursions is the farm planning in the future?
- How to contact you?

Give visitors a chance to ask any questions that interest them in the presence of the group, or individually after the excursion or remotely by contacting you. Indicate all information channels: phone, website, social networks. Invite guests to stay updated on the events that will follow soon.

In tuition material on the portal macies.celotajs.lv, "Instrukcija ražojošām lauku saimniecībām (Guidline for manufacturing farms)" <https://macies.celotajs.lv/course/view.php?id=50> you can find a presentation template for agricultural entrepreneurs willing to open their farm to visitors and receive tourists in addition to their agricultural production.

5.5. PRODUCE TASTING

Produce degustation, together with a story, provides an excellent experience, allowing the visitor to enjoy high quality produce, understand how it differs from mass produce of lesser quality and why it is important to maintain the most valuable of the inherited traditions and species.

- You can combine the tasting with the presentation of the farm. For that you require a separate presentation and/or tasting room. In this room the guests are usually introduced to the operations of the farm before the excursion and the tasting is held after the excursion and members of the group can ask questions.
- You should know the optimum capacity of the room - how large a group of visitors you can locate there.



- Provide a chance for the guests to wash their hands before the tasting - a sink with running water, liquid soap, paper towels or a hand dryer.
- There is furniture needed in the room - a tasting table, presentation equipment, chairs or benches according to the number of guests. You need a stand with hangers for outerwear.
- Good electrical lighting is necessary in the room. It is recommended that you purchase economic bulbs with a pleasant, warm light.
- A comfortable temperature is needed in the room of +18-25°C.
- It is desired that the floor be from material that could be cleaned easily since the visitors are not changing shoes.
- It is recommended that you place informative materials about the farm and its produce in the room. You can have images, leaflets and business cards guests could take with them and descriptions of the produce.
- It is convenient to use disposable dishes during the tasting – plates, cups, glasses, forks, knives, spoons - whatever is necessary. They have to be of high quality, aesthetic, environmentally friendly. Napkins to wipe hands are required.
- Place several waste bins with garbage bags in visible places in the room so guests can throw out the used dishes themselves, thus saving you the time to clean up after the tasting.
- Food served during the tasting should be divided in portions that are comfortable to take and eat.
- Arrange the degustation table neatly. If you are not using benches or chairs, there should be a possibility to access the degustation table from several sides to avoid crowding.
- If there are various products offered from a common dish - a tray, plate etc., during the tasting, then place a clearly legible label next to it with the product name and/or description.
- When serving the tasting, observe personal hygiene and food hygiene requirements.

5.6. A FARM STORE OR STAND

Any producing farm or vegetable farm can open their own store where farm produce and/or souvenirs are sold. That not only shortens the road to the customer but also improves the recognition of the farm and its produce.

Opening a farm store, you will require knowledge

in various fields. Entrepreneurs should regularly follow changes in the legislation to timely respond to them.

Find out more about opening your own store in Latvia at LLTA "Lauku ceļotājs" guidebook "Kā atvērt lauku labumu veikalu (How to open a rural produce store)" <https://macies.celotajs.lv/course/view.php?id=53>.

Here is a general insight into the most important things:



REGISTRATION, PERMITS, LICENCES

A business activity registration form for the store will be the same as for the economic activity – Ltd., IC, physical entity or cooperative company. If a cooperative or association will sell the produce in the store, then the legislation governing these organizations will apply for the store opening. You must register the company in the Enterprise Register and with the State Revenue Service.

FOOD SAFETY AND HYGIENE

If food products are sold in the store, you must register the company with the Food and Veterinary Service. The Food and Veterinary Service (FVO) in Latvia is the main institution supervising and controlling food circulation and it indicates that: "There are no specialized hygiene requirements determined for points of sale, regardless of the size. Merchants must observe general hygiene requirements determined in the EU Regulation on the hygiene of food products. The largest and most serious requirement is the provision of suitable product storage temperatures, as well as personal hygiene and training. In turn, European Parliament and Council Regulation 2004 April 29 No.853/2004 determines the specific requirements in relation to animal origin foods.

When the store is ready, before commencing work

you have to register it with the Food and Veterinary Service (FVC). Fill out the application, sign and seal it, and submit it to the Division of the FVC that governs your territory. You can find the registration form on the FVC website www.pvd.gov.lv in the section "Forms". You can also send the application by e-mail: pvd@gov.lv. If you submit documents electronically, they also require an e-signature. If before launching you desire that the FVC perform an inspection of the company, also apply there. This inspection is not mandatory.

At the moment of registration the company is included in the list of objects supervised by the FVC and further inspections are planned. Inspectors of the FVC perform planned inspections in food companies on the basis of the FVC inspection plan. This plan determines the minimum amount of inspections per year for every group of companies involved in the food supply chain; inspections can vary from once a quarter to once every two years.

More information related to the registration of a company with the FVC can be found on the website of the Ministry of Agriculture, in the Registration of food companies section.

N.B.! REGISTRATION WITH THE FVC IS FREE AND YOU CAN REGISTER WITHIN 5 WORKING DAYS.

The company is responsible for the quality of its products, thus all the requirements of the laws and regulations governing the food supply chain, as well as the general hygiene requirements determined in

European Parliament and Council Regulation (EC) No. 852/2004 of April 29, 2004, are binding for it. The requirements for food supply chains are published on the website of the Ministry of Agriculture.

A LICENCE FOR THE SALE OF ALCOHOL

For retail sales of alcoholic beverages you need a special permit (licence), according to the Law on Spirit Drink Circulation. An alcoholic beverages wholesale licence, alcoholic beverages retail sales licence and beer retail sales licence entitles one to perform the respective actions only in the place indicated in the licence, and only the person to whom this licence is issued can use it. To receive the licence, the entrepreneur adds the following documents to the application: a document attesting to the right to use the location indicated for the business activity (premises, point of sales); a plan of the location to be used, signed by the responsible person. When the information that is indicated in the application to receive the licence or in the added documents changes, it is the entrepreneur's responsibility to inform the State Revenue Service of this fact and submit copies of documents attesting to the changes. Read more in the Law on Spirit Drink Circulation.

COPYRIGHT LICENCE

To make the store more appealing to the client, many entrepreneurs choose to play music there. In order to do that, it is mandatory to purchase a



copyright licence. If the radio, television or music recordings are played in the premises of the company, then an agreement with the representative of copyrights is required. It can be either an agreement with an individual person to play their music in the particular company or an agreement with the representative of copyrights. The sole representative of copyrights in Latvia is the Copyright and Communication Consulting Agency AKKA/LAA. N.B.! The price of a licence depends on the various types of the use of the works. Read more at the AKKA/LAA website.

SAFETY

• Fire safety requirements

According to the requirements of Regulation of the Cabinet of Ministers No. 359, an employer should equip the workplace with conveniently accessible, simply to use and suitable fire fighting equipment (if possible, automatic), an automatic fire fighting alarm, a fire notification system and fire fighting tools. Current Fire safety regulations inform how to determine the flammability level of an object and according to that indicates the fire fighting equipment required.

• Electrical safety requirements

Regulation No. 82 of the Cabinet of Ministers specifies the requirements for electrical installations to avoid the risk of a fire or an explosion.

• Safety signs and signal paint indicate the exit/evacuation route

In retail sales premises most often signs showing evacuation routes, the location of fire fighting tools and first aid kits must be displayed. But the signal paint (yellow and black or in separate cases, red and white striped signal paint - the size of the signal paint is proportional to the size of the obstacles or dangerous substances, but the yellow and black or red and white stripes are of identical width and located at a 45° degree angle) marks those dangerous places where the risk of accidents prevail, for example, different floor heights, steps, places where you can hit your head, etc.

• First aid

Work in retail sales is considered low risk work, thus the number of first aid kits required is comparatively small. The most important thing in a situation where an accident has occurred is that first aid kits should be easily accessible. We must also remember that in retail sales various health issues can comparatively frequently also affect the visitors to the store - the customers. In these cases always call an ambulance instead of trying to provide first aid yourself.

HOW TO OPEN A RURAL PRODUCE STORE IN LITHUANIA?

The most popular forms of business in Lithuania are:

- Self-employment according to a certificate of



individual activity or a business certificate:

- ◆ Registration of self-employment according to a certificate of individual activity is done by submitting the relevant application to the State Tax Inspectorate. The request to issue a certificate must be submitted by the first day that individual activity is carried out. This certificate is issued for an indefinite period.
- ◆ Registration of self-employment according to a business certificate is done by submitting an application to obtain a business certificate, an identity document, and other documents that are required in individual cases.

The documents can be submitted to the State Tax Inspectorate in person, by post, or by e-mail. More information is available at www.vmi.lt.

• By establishing a legal entity: a private limited liability company (UAB), a small cooperative (MB), a sole proprietorship (JI), a cooperative, or an agricultural cooperative.

Important to know:

- ◆ When registering the selected form of a legal entity, you need to complete an application with State Enterprise Centre of Registers. If the company is being registered electronically via www.registrucentras.lt, the founder must have a qualified electronic signature. This is a paid service. A legal entity will be registered within one working day, provided that the manager of the Register of Legal Entities does not identify

any shortcomings when checking the data and documents submitted.

- ◆ The legal entity will be registered in the Taxpayer Register automatically.
- ◆ When registering a company as a taxpayer, it is also registered as a policyholder, and the company's data is transferred to the State Social Insurance Fund Board.
- ◆ Some commercial business activities can only be carried out after obtaining a corresponding licence or permit. If by law, this requirement applies to the activity that you plan to engage in, be sure to apply to the authorities that issue said licences or permits in due time.
- ◆ In order to become certified in occupational safety and health, you have to prepare at a training facility or independently, and pass the exam. After you become certified, you will receive an occupational health certificate. This is mandatory for managers and some specialists.

STORE INTERIOR AND DESIGN

It is recommended that before arranging the store layout you inspect and compare various examples and, if possible, involve a professional designer in the creation of a store design to avoid beginners mistakes. A qualified designer will help you to arrange the room usefully, being aware of the perceptive habits of people and marketing basics. A professional will know the consequences of how



Shop "Zaļā zeme" in Jelgava



to use colour and light. The simpler, cleaner, more thoughtful and balanced the interior and design, the better.

There are several store arrangement types for you to pick from as the most suitable for your store:

A Straight line (locating the shelves in a straight line on the floor and near the walls) arrangement: this type allows you to efficiently use all the floor space and wall space, including the corners of the rooms. It is easy for the client to orientate oneself in this arrangement and for the shop keeper - to arrange products. Suitable for small retailers that have limited stock.

A Loop (similar to a race track, the products are placed in a circle) arrangement: mostly the walls are used to place products, placing a separate stand in

the middle of the room. Suitable for clothing, accessories, toys, furniture, kitchen items, personal care and specialized retail stores.

A Free (a plan that permits the highest expression of creativity) arrangement: most common in expensive brands clothing and accessories stores, “boutique” style stores, sales of personal items, as well as mixed stores, for example, placing bakery, deli and packed products in one store.

SELLING SKILLS

The point of sale should be tidy, clean, obvious and attractive. The shop assistant can't serve clients in dirty clothes or in a bad mood. The look and clothing of the shop assistant should be neat and pleasant, the shop assistant has to have groomed nails, clean hair, fresh breath etc. Friendly, kind communication with the customer is important. How to properly communicate with your customer, how to provide a welcoming reception? You can find tips in the compilation of the Tourism Development State Agency „Viesmīlības Rokasgrāmata (Hospitality Guide Book)”.





6.

INFRASTRUCTURE FOR RECEIVING TOURISTS

6.1. ROAD SIGNS

- Clear signs showing directions to the farm are needed from the access road. The content of the sign depends on the specifics of the farm.
- If you want to attract passers-by, place the maximum amount of information about the offer on the sign, for example: the name of the farm, business activity type, the offer for visitors, working hours, phone number. Show part of the information graphically – pictograms, symbols, drawings, logo etc. Reflective elements are desirable on the sign to make it visible in the dark.
- If owners do not want to attract passers-by, but only guests who book their visit in advance, the road sign should be laconic, but easily seen.

Before you place an advertising object by a state significance motor road, you have to get approval from the Road Traffic Safety Directorate (RTSD). Here you also need to get approval to place advertising, information, signs on any roads (up to 50 m distance from road). If the farm has a store and the owners want to put extra points of sale or products for sale next to the store building (especially during the summer), then this is not perceived as street sales and a special permit from the municipality is not

required. If you want to sell food in this way, then you will need approval from the institution that has also approved the food company - the State Health Centre and the State Sanitary Inspection.

• Sign placing provisions.

You can use various types of posters, signposts made of wood, steel or stone as signs. Put a clear name of the farm on the sign, it should be well legible when driving a car at a permitted speed on the road. An illuminated name or reflective letters. Avoid placing several signs in one place.

• Technical solutions and provisions.

The costs of signs depend on the selected material and the resources of the owners. More details about the solutions and requirements: Regulation of the Cabinet of Ministers No. 402 „Regulation on the placing of an advertising object or information object by the roads, as well as the approval procedure for the advertising object or information object”.

- You need to approve the signboard for your store with the municipality. More: Regulation of the Cabinet of Ministers No. 732 „Permit provision procedure for the placement of advertisement in public places or places that are directed towards a public place”.



6.2. CAR PARKING

- Minimum requirements for car parking are a flat field with a surface (gravel, broken stones, asphalt etc.) to avoid the formation of mud.
- A sufficient amount of space is required for car parking according to the planned number of visitors.
- If you plan to receive groups of visitors, you require a sufficient amount of space for a tourist bus to drive in, stop and turn around in the parking lot. In this case, make sure the access road is of appropriate width.
- The car parking needs a corresponding sign – preferably a traffic sign with the letter P which everyone can recognize.
- In some cases you also need signs showing directions to the parking lot so that drivers in an unfamiliar place, especially the drivers of large buses, can better orientate, for example, if the access road branches out, if the farm has several buildings or fields etc.
- It is convenient for visitors if there are also waste bins in the parking lot.
- If you also receive visitors during the winter, the parking lot should be appropriately cleaned and maintained for easy access (clear snow, ice, spread gravel or some other material to prevent slipping).



6.3. VISITOR'S WC

- Regularly inspect visitors' WCs, make sure that the rinsing box of the toilet, the lighting and lock are working and there is enough toilet paper.
- Regularly clean the toilet and empty the waste bin.
- Provide an opportunity for guests to wash their hands - a sink with running water, liquid soap, paper towels or a hand dryer.
- Put a sign on the WC door.
- It is also possible to use a dry toilet outside. Also regularly check the stock of toilet paper here. An outdoor toilet needs sufficient lighting - an outside light or an electric light.



7.

HISTORICAL INFORMATION ON GARDENING, VARIETIES, PLANT BREEDING

Historical information can be used in the creation of garden tourism since the history of every garden is related to the common history of gardening in Latvia. This chapter covers the history of gardening in four areas - fruit growing, vegetable growing, herbs and decorative plants. The information characterises various historical stages and their impacts.

In 2017 Latvia specialists from the Institute of Gardening surveyed Latvian gardens, establishing the signature, historical species and cultivars. In the further sections we will elaborate on the historical species established in modern gardens.

7.1. LATVIAN HORTICULTURAL HISTORY

7.1.1. FRUIT GROWING

The first information about orchards as a valuable object was found in the agreement concluded in 1339 between the Livonian Order and the Bishop of Riga where the order promised the bishop to return all gardens, fields and pasture land taken from him during the last war.

FRUIT GROWING IN MANORS

Up to the 19th century fruit growing mostly developed in Kurzeme and the southern part of Vidzeme. There were orchards near every manor. Over time people understood that many foreign plants and species are not suitable for our climate. For example, in trimmed green hedges, box was replaced by gooseberries and currants. In the 19th century the average size of a manor garden was 0.5 up to 1 ha. The number of fruit trees in a manor garden varied from 20 to 1500, on average 150–300 trees. Since the gardeners were mostly German, delicate Western European species were mostly planted. The most popular were apples, cherries and plums; pear trees were the least popular. Of berries, the most commonly grown were currants and gooseberries. You could mostly find strawberries and cranberries in the manor gardens. In Kurzeme wild vines were also successfully grown. They grew apricots near the walls, covering them with boards during the winter, but peaches were grown in greenhouses. After the liberation of the peasants, industry started to develop in the large cities, the number of inhabitants increased and the demand for fruit also grew. Manor gardens could not satisfy this demand and fruit was expensive. Therefore the government and landlords encouraged the planting of orchards on



farms. The manor was the school for the Latvian peasant-gardener.

FRUIT GROWING ON FARMS

The first large peasant orchards were established in the middle of the 19th century around Valmiera and Dobele. The most rapid setting up of orchards was during the 70s to 80s. The peasants' gardens were on average 0.33 hectares in size (1 pūrvieta) where 90 to 95 fruit trees were grown.

The first book about fruit growing in the Latvian language was "Tas āboļu-dārznieks (The Gardener of Apples)" (1803) written by the German gardener J. H. Zigra and translated in several languages (for example, Polish and Lithuanian). The first significant Latvian gardeners influencing the development of fruit growing in Latvia were S. Klevers, J. Peņģerots, T. Bētiņš, F. Lasmanis, J. Plaudis and Eglītis-Tālumnieks who encouraged others to turn to the fruit growing sector.

NURSERIES AND THE CULTIVATION OF SPECIES

The planting material for fruit trees was grown in tree nurseries in Riga and the countryside. At the beginning of the 19th century J. Zigra set up the first tree nursery in Riga, later several larger tree nurseries were also established in Riga by C.H. Wagner and C.W. Schoch.

There were also pomological gardens next to the tree nurseries where species from Western Europe or Russia were planted. Small tree nurseries were also created in the countryside where several local origin seedlings were cultivated, as well as species obtained from the manor gardens. Usually the seedlings of local crab-apple trees and wild pear trees were used as rootstock.

SUPERVISION OF GARDENING

In the beginning of the 20th century gardening supervision societies in Lielaucē, Džūkste and Sēlpils promoted the development of the fruit growing sector. Over time the fruit growing supervisors work developed rapidly, in 1929 their number had already reached 29 supervision societies. One society united 5 to 20 farms. The size of gardens increased, fruit and berry processing was started and the export of fruit and berries, as well as their processed products, to Western Europe developed. The development of the industry was clearly understood

by the management of agriculture in independent Latvia - the Ministry of Agriculture and the Central Society of Gardening, which was later replaced by the Latvian Chamber of Agriculture.

POMOLOGICAM GARDEN IN KĀRĻI

The Russian Count Siviers made a large contribution to the preparation of Latvian gardeners by founding the Pomological garden in Kārļi in 1870 (pomology - teaching about fruit tree and berry bush species and cultivars) and a large tree nursery. Up to 1914 they tested more than 600 species of fruit trees from the USA, Scandinavia, Russia, Germany and Poland, 340 species of berry bushes and 40 species of nut-trees, separating out the ones that both landlords and garden enthusiasts loved. Over the course of the history there is little left from the large number of species in Kārļi but it was exactly the old school that influenced the exceptional variety of species in our old gardens. Nevertheless, it gave a foundation for selecting the species that are suitable for our climate. There are very many species which nobody recognizes any longer and can't be determined now.

Local species were also developed in the Kārļi pomological garden – 'Baltā Kārļu Renete' (called the Lithuanian white sweet in the gardens of Latgale and the 'Čornoje Derevo', although this is not a correct name), 'Lielais Vidzemes Sīpoliņš', 'Sarkanais Ziemas Kalvils' (Latgales kanviļi), 'Valmieras ziemas', 'Vidzemes Šampanietis', 'Vidzemes Mūķene'; these species are currently rarely found or they have vanished completely. Also root stock material is grown in Kārļi, plum leaf crab apple (*Malus x prunifolia*). You can find versions and hybrids of these species of apple trees, which are frost resistant and modest, in almost in every garden – these are Paradise apples with yellow or rosy apples, but they are not used as root stock any more since they lack compatibility with the planted species.

After many cold winters in those times in the Baltic countries, nobody was thinking about growing the best Southern pear species. The pear tree 'Kārļu Pelēkā bumbiere' was received from foreign countries under the name of another species. From that time you can find large trees with tiny, early and not very tasty pears, also called cinnamon pears, summer bergamots, graubins or seedlings, in many

gardens in Latvia and neighbouring countries.

Nowadays the hotel „Kārļamuiža” (www.karlamuiza.lv) is located in this place and during a visit you can also get to know the history of the first school of pomology in Latvia.

BULDURI GARDENING SCHOOL

In the 19th century in Riga, the German Gardening and Tsarist Russia Gardening Society Riga Division was founded. Later this division was renamed the Riga Gardening Society, which organized gardening courses. At the beginning of the 20th century the society opened the gardening school in Bulduri Manor. After World War II, the school was turned into the Bulduri Gardening Technical School providing secondary education in gardening and also carrying out scientific work.

THE LATVIAN GARDENING SOCIETY

Development was interrupted during the First World War but it rapidly resumed, with the founding of the Latvian Gardening Society after the war. The Gardening Program of the Faculty of Agronomy of the Latvian State University prepared gardening specialists (1922) which in 1939 was turned into the Gardening Department of the Latvian Academy of Agriculture. The department also performed profound gardening research work.

THE PŪRE GARDENING EXPERIMENTAL STATION

In 1930 the Pūre Gardening Experimental Station was founded and the development of the pomological gardens was started a few years later and they also performed studies on the suitability of local and introduced species to the local conditions. Various studies of an agro-technical nature were also performed on the fruit trees and berry bushes there. The planting of orchards continued. In 1939, before the large frost catastrophe, the total number of fruit trees reached around 8 million. After three cold winters, 6 million trees were lost and the remaining trees were also severely damaged. World War II also damaged the gardens.

In Pūre, A. Vāvere created the popular apple tree species 'Korta', crossbreeding 'Rēvels Bumbierābele' with 'Baltā Dzidrā' (It is interesting that an analysis of the genetic markers shows that the second parent plant of the species is not 'Cukuriņš', as it was

considered before). But a wider selection of apple trees in the Pūre Gardening Experimental Station was not performed.

THE LATVIAN ACADEMY OF AGRICULTURE

During the post-war period the Latvian Academy of Agriculture was founded in Riga on the basis of the Jelgava Academy of Agriculture, where the new specialists of the sector were prepared. J. Sudrabs was the head of the agriculture department and he devoted his entire life to teach students. The first head of the department and teacher Pēteris Dindonis also made a large contribution to the sector, as well as the teacher of fruit growing, Jānis Kārklīņš.

BREEDERS OF FRUIT PLANTS

Around the middle part of the 20th century, the total area of the orchards comprised 28,600 hectares, of which 16,200 hectares were orchards of collective farms and Soviet farms, and 12,000 ha household orchards. Latvian fruit growers widely used species of the local selection that have been developed and nurtured for many hundreds of years and have partially survived up to nowadays. In the 19th century and even until the middle of the 20th century, new species emerged only as accidental seedlings.

Already during the 1930s Jānis Šterns in the Medze, district of Liepāja, started the selection of gooseberry resistant to mildew and obtained the species 'Šterna Ražīgā'; later his son, Viesturs Šterns, also joined him and both cultivated the valuable species of gooseberry 'Kuršu Dzintars' (which can be found in almost every family garden), 'Pārsla' and others.

Arvids Viksne in Koknese (1930s -1970s) created the gooseberry species 'Avenite', 'Koknese', 'Pērse', 'Mazērķškotā' and others, and also the excellent species of currants 'Viksnes Sarkanās' (Viksnes Deep Red). These species are still grown and cultivated. Viesturs Dūks in Pūre made a significant contribution to the selection of berry bushes, as well as Pēteris Upītis in Dobeles, but their species have not survived, except for P. Upītis species of strawberries 'Jūnija Smaids'.

Viktors Vārna at the Botanical Gardens of the University of Latvia has acquired cold-resistant species of apricots and peaches. Pauls Sukatnieks



in Dviete started a selection of cold-resistant grapes in Latvia (the species 'Zilga', 'Guna', 'Supaga' and others). It was precisely in Latvia where for the first time in culture in 1950s a new fruit plant was introduced – Japanese quince; for many years Alberts Tics in Pūre performed the selection, but later it was the Institute of Horticulture. Also, several amateur selectionists were engaged in the selection of fruit plants and the species they created can be found in household gardens and are kept in genetic resource collections.

20th century The Academy of Science organised an expedition in the 1950s and as a result of this, A. Spolītis, O. Romanovska and J. Kārklīņš found and described a new valuable selection species of apple trees. Later Jānis Kārklīņš also described and promoted the found species. These are the apple trees 'Burtnieku Ziemas', 'Celmiņu Dzeltēnaiss', 'Krapes Cukurīņš', 'Jelgavas Vasaras', 'Rīgas Rožābele', 'Valmieras Vasaras', 'Laizānu Ziemas' and others. From pear trees they are 'Talsu Skaistule', 'Bārtas Bergamote', 'Basu Ziemas', but from plums 'Aizputes plūme' (now almost disappeared), 'Kārsavas plūme', 'Vījakas plūme', from sour cherries 'Kazdangas', 'Daugmales', from sweet cherries 'Vidzemes Sārtvaidzis', 'Strazdes agrais'.

STATE FRUIT GROWING SELECTION FARM „IEDŽĒNI”

The purposeful selection of fruit trees started in the 1950s, performed by Roberts Āboliņš (1906

-1995), Aleksandrs Maizītis (1912-2002), and later also Rūdolfis Dumbravs (1931-2016) in the Madona District's „Iedzēni”. They created several species of apple trees, pear trees and sweet cherries that are still cultivated, for example, the apple trees 'Iedzēnu', 'Forele', 'Alro', 'Atvasara', 'Rāja', 'Stars', pear trees 'Kursa', 'Vidzeme', the red leaf plum 'Spidola', sweet cherries 'Agris', 'Balzams' and others. They also created the excellent species of park roses 'Lidija Freimane'.

THE LATVIAN INSTITUTE OF HORTICULTURE

In 1990s the Latvian State Institute of Horticulture (now - the Institute of Horticulture) took over the „Iedzēni” selection material in Dobele and the Pūre Horticulture Study Centre (DPC). Here a range of apple and pear trees were selected from this material and registered, the apple tree 'Agra' and the pear tree 'Suvenīrs' being the most prominent of them. In Dobele, Pēteris Upītis performed the selection of apple trees in the laboratory of fruit trees from 1950-1970. His best species were the apple trees 'Ilga' and 'Velte', later from his selection material there were also the pear trees 'Paulīna' and 'Jumurda', sweet cherries 'Aija', 'Indra', 'Jānis', apricots 'Lāsma', 'Daiga', 'Velta' and others were taken; he also created many wonderful species of lilac. In the 1990s the

Latvian State Institute of Horticulture and the Pūre Horticulture Study Centre took over his selection material and continued the selection work.

SPECIES

APPLE TREES

We can only guess what species were cultivated in the first orchards in Latvia. During the end of the 19th century and the first half of the 20th century mostly local, Baltic and Russian apple tree species with good cold resistance were cultivated - 'Antonovka' (most popular for processing), 'Aport', 'Aniss', 'Baltais Dzidrais' (The most popular Latvian species in the world), 'Borovinka', 'Cukuriņš' ('Korobovka'), 'Lietuvas Pepiņš', 'Mālābele' ('Serinka'), 'Ničnera Zemeņu' (probably the oldest Latvian species from the 18th century), 'Rēveles Bumbierābele', 'Rudens Svītrainais' (Vidzemes Grāvenšteins), 'Sīpoliņš', 'Suislepp' (Rožābols, in Latgale - Maljinovka), 'Titovka', 'Trebū Sēklaudzis'. In Kurzeme and Zemgale they also grew Western European species, for example, 'Bohnapfel' (the Rhine apple tree), 'Boiken', 'Edelborsdorfer' (Real Borsdorfer), 'Filippa', 'Gelber Richard' (Yellow Richard), 'Gravensteiner' (Real Gravenstein), 'Prinzenapfel' (Firkin), 'Signe Tillisch', 'Wilhelm' (Kaiser Wilhelm) and many others. Later, especially in the kolkhoz gardens, I. Mičurins species 'Saffron



Pippin' ('Pepin Šafrannij') was very popular; it has currently lost its significance but still grows in many places.

J. Peņģerots-Svešais book 'Augļu dārzs (Orchard)' (1902) recommends to cultivate the following apple species (the original spelling is maintained):

Summer apples: 'Baltais Dzidrais' (Klārābols), pear apples, 'Harlamovskijs' [Borovinka], rose apples, 'Virginia', 'Astrakhan' apples, milk apples, clear green apples.

Autumn and winter apples: Vidzeme 'Grāvenšteins' (also called Amtmanis, stripe autumn apple), 'Serinka' (clay apple), 'Aports', 'Vidzemes šampanera', 'Antonovka', 'English pippin' (Riga dove apple), onion apple, strawberry apple, 'Ničnera', 'Prince apple', 'Čornogus', beans apple (Duke apple), 'Fameuse', kaiser Viļums apple.

PEAR TREES

The most popular pear trees were 'Kurzemes Sviesta', 'Vasaras Bergamote', 'Durbes Vasaras', several local butter pear trees (Bauskas, Vidzemes, Liepājas), in Latgale – 'Duļa', 'Sanitātes Padomnieks' ('Krol Sobieski'), in warmer regions 'Labā Pelēkā' ('Beurre Gris'), 'Klapa Milule' ('Clapp's Favorite'), 'Trevū Agrā' ('Precoce de Trevoux'), 'Williams' ('Bon Chretien') and other fragile species inoculated in the crown.

CHERRIES

Of cherries, the most popular were 'Latvijas Zemais' which was previously called Lithuanian cherry (in Lithuania – 'Žagarvyšne') and 'Latvijas Augstais' or Beer cherry. As for sweet cherries, mostly frost non-resistant species were grown, of which a few have remained up to today, like 'Drogana Dzeltenais' and 'Hedelfingen', as well as seedlings, of which the most popular are Ēdole cherries.

PLUMS

'Latvijas Dzeltenā Oplūme' was the most popular plums, unfortunately its most fruitful versions have vanished due to the cold winters. The plums of Western European origin were also grown 'Altana Renklode', 'Cara' (now very rare), 'Edinburgas Hercogs', 'Emma Leppermann', 'Firziķu plūme'

(vanished due to cold winters), 'Kirke' (not-resistant to cold but still survived), 'Lielhercogs' ('Grand Duke'), 'Nansi Mirabele', 'Ulenas Renklode', 'Victoria', 'Zajā Renklode', the American species 'Ontario', 'Jefferson', 'Washington' and others. They also planted blue plums or cvečes imported from Western Europe but they did not produce fruit in the Latvian climate or gave just a few fruits. Small plums or būkas of different varieties and clones augmented with sprouts grow in all regions of Latvia. The most fruitful are the following species – 'Kurzemes Būka', 'Vidzemes Būka', 'Latgales Būka'.

OTHER FRUIT PLANTS

They also grew the widely-known currants 'Holandes Sarkanās', 'Holandes Baltās' and others that have vanished now. Also the old blackcurrant and gooseberry species have disappeared due to mildew brought in from America. In Riga's Jūrmala, up to the second half of the 20th century the strawberries 'Viktorija' (Rigas Jūrmalas) were widely grown and sold to summer residents and brought by train to the Central Market. Elder grew next to manors but it's only nowadays that we know that we can use it not only as a medical plant.

HISTORICAL SPECIES ESTABLISHED IN MODERN GARDENS

APPLE TREES

- A traditional assortment of old species (the majority of gardens):
,Antonovka', ,Akerō', ,Baltais Dzidrais', ,Cukuriņš' (Korobovka), ,Filippa', ,Lietuvos Pepīnas', ,Ničnera Zemeņu', ,Rēveles Bumbiērābele', ,Rudens Svītrainais', ,Suislepp' (Maļinovka), Serinka' (Clay apple), ,Signe Tillišch', –,Sīpoliņš', ,Trebū sēklaudzis', 'Wealthy' (Tartu rose).
- Kolkhoz period species were, for example, ,Saffron Pippin'.
- Very old, now rare species, for example: 'Arkad Žoltij', 'Avenarius', 'Baltā Vasaras Kalvile', 'Boiken', 'Edelborsdorfer' (Real Borsdorfer), 'Gelber Richard' (Yellow Richard), 'Gloria Mundi', 'Grušovka Moskovskaja', 'Kulona Renete' ('Reinette Coulon'), 'Reinas Pupu' ('Bohnapfel'), 'Rīgas Pienābele' (Zemaičiu Grietininis), 'Muciņa' ('Prinzenapfel'), 'Virginy Rose', 'Zaķpurni'.
- Several species inoculated in one tree (1930s).
- Very rare species, the compatibility of which

needs to be verified, for example: 'Baltā Ziemas Kalvīle', 'Durbes Sarkanā', 'Golden Noble'.

- Apple tree species, for example: crab-apple (*Malus sylvestris*), plum leaf apple (*Malus x prunifolia*).

PEAR TREES

Pear trees are rarely found, mostly they are in Zemgale and Kurzeme.

- The most popular species: 'Duļa' (in Latgale), 'Durbes Vasaras', 'Vasaras bergamote'.
- Rarer species: 'Grīnvalda Bergamote', 'Kurzemes Sviesta', 'Kanēja bumbiere' – Mazmežotne, 'Labā Pelēkā' (Bonne de Gris), 'Libekas Bergamote', 'Vindzoras' (Windsor) – Maras Manor, 'Basu Ziemas' (Suitu Pear Tree).
- Species created with the seedlings of wild pear (*Pyrus pyrastra*) used as rootstock has died of cold.

Conclusion: you need to plant old species of pear trees anew; cold not-resistant - inoculate in the crown.

SWEET AND SOUR CHERRIES

- Sweet cherries: old, grand seedlings widely distributed in Kurzeme, especially around Ēdole, but rarely located in tourist attraction objects. The species are usually not known, except 'Drogana Dzeltēno' ('Drogans Gelbe').
- Sour cherries: 'Latvijas Augstais' (Beer cherry), 'Latvijas Zemais' (Žagares or Lithuanian cherry), 'Kazdangas' - a disappearing species (are in Kazdanga park, „Billites”).

PLUMS

Plums were not found in the examined gardens (they died of frost). Found in Kurzeme, Zemgale, Sēlija, Latgale but has given a poor harvest everywhere during the recent years. The species are frequently not known.

- The most popular species: 'Latvijas Dzeltēnā Olplūme', 'Būkas' (small plums), Caucasian plums (*Prunus cerasifera*) – not historical, planted in the 20th century
- Rarely found: 'Edinburgas Hercogs', 'Kārsavas', '–Kirke' – only in Durbe.

Conclusion: you need to plant the old species of plums again in suitable places.

BERRY BUSHES

Berry bushes have a short lifespan, old species are rarely preserved.

- Currants: 'Holandes Sarkanās'.
- Gooseberries – old species of large-berries have vanished due to mildew, only the small-berry, more resistant species from the first part of the 20th century have remained: '–Houghton', 'Čornij Negus'.
- Strawberries: in some gardens month-strawberries (a remote form of wild strawberries), Muscat strawberries („Billitēs”).

GRAPES

Most common in Sēlija.

- The collection Vārnavas „Rudzīšos” - 100 species, including Latvian, Lithuanian 20th century species, old European species.
- The collection Dvietes „Apsītēs” - Latvian and other species, the museum of selectionist P. Sukatnieks, events.
- A vineyard in Brukna – organized in the classic style.
- Amūra vine.



These grapes form the history of Latvian and Lithuanian grape selection, even though they were only created during the second half of the 20th century.

RARE FRUIT PLANTS

- Walnut trees: The Royal walnut *Juglans regia* and its hybrids (edible), Manchurian walnut *J.mandschurica*, Narrow fruit walnut *J.stenocarpa*, Black walnut



J.nigra, Grey walnut *J.cinerea*.

- Hazelnut-tree: mostly forest nut-trees are growing, not species.
- Rowan trees - local species: The usual rowan tree, Swedish rowan tree.
- The Hybrid rowan (Swedish rowan tree) – can be found in Kurzeme.
- The Black elder: Seedlings grow in many places. Products are prepared in Blankenfelde, currently not used elsewhere – but should be!

7.1.2. VEGETABLE GARDENING

A majority of vegetable cultures emerged in tropical or subtropical areas. All the currently known vegetables have emerged from the wild plants of various countries. Central Europe and Northern Europe countries introduced vegetables much later than Greece, Egypt and other countries. From these places they spread into Western Europe, Central Europe, Northern Europe and Eastern Europe.

THE FIRST CULTIVARS

The first cultivars were turnips, then peas and beans, and later white cabbage. Even the oldest writings in Russia talk about the growing of cabbage. In the 14th century cabbage became the main vegetable,

followed by turnips. From the 13th to the 15th century the range of vegetables significantly increased. In this period onions, garlic, Spanish radish, Swedish turnips and beets were started to be grown. In the 15th century cucumbers, carrots, parsley, horseradish and some leafy vegetables appeared. The most recent were tomatoes, which gained commercial significance only at the beginning of the 20th century. In the territory of Latvia many vegetables were brought directly from Russia: onions, cucumbers and some other species, which is indicated by the old Russian species which are found in old catalogues and the above-mentioned books. Some of the vegetables were also brought in from Denmark, Netherlands, Germany and other European countries.

ORIGINS OF SOME OF THE MOST POPULAR VEGETABLES AND THEIR INTRODUCTION TO LATVIA

CABBAGE

Cabbage has been consumed as a vegetable for over 400 years.

‘Dindoņa uzlabotie agrie’: a cultivar from Latvia that, according to the data acquired by P. Dindonis, has been selectively bred from the early Bronka

cabbage from Russia. Practical observations proved this cultivar to be suitable in poor growth conditions.

'Jelgavas kāposti': for ages, it has been a local cultivar grown in the surroundings of Jelgava, the origins of which remain unknown. Tests conducted in Pūre resulted in the conclusion that this cultivar produces high quality cabbage.

'Daugavpils kāposti': an ancient cultivar local to Daugavpils-Grīva originating from Russia.

RADISHES

The area of origin for the radish is Central Asia. In France and other European countries, the first information about radishes began to appear from the 16th century. In Latvia, they started to gain ground in the 18th century.

ONIONS

Onions have a long history, as Egyptians already began consuming them around 3400 BC. The onion genus *Allium* is known to include 300 species. Some of them also occur in Latvia. Mediterranean countries are the homeland of edible onions, leeks and pearl onions but the cultivars of traditional onions have emerged from the wild species found in Central Asia which are not much different than the current cultivars. Selectionist E.Kapiņš created the local species 'Kapiņa', crossing the species 'Reinsburga' and 'Meilande' and making systematic selection. Family onions, most likely, were introduced in the territory of Latvia from Russia.



SWEDISH TURNIPS

The origins of turnips and species similar to them are not completely clear, as there are many who do not distinguish these root-crops from one another. Linejs also did not strictly separate Swedish turnips, turnips and the wild versions characteristic to them. It is assumed that Swedish turnips emerged from rape and they differ from it only with a more mature and larger root due to selection. As rape is not found wild in nature, then it is considered that these cultivars emerged due to the crossbreeding of related mustard family plants. Swedish turnips and turnips belong to the most ancient cultivars - the vegetables of European nations and were already known during the Bronze age. It is believed that Swedish turnips came to Latvia from the Scandinavian countries during Viking times.

CARROTS

Traditional carrots are plants of Mediterranean origin and from there they spread not only to other areas of Europe but to almost the entire world. All traditional wild carrot subspecies have small and tiny roots. Cultivars emerged due to the hybridization of certain species or subspecies.

CUCUMBERS

The cucumber comes from the tropical areas of India where this cultivar was already grown in 3000 BC. From India it spread to Western Asian countries. In the territory of Latvia cucumbers were introduced at the beginning of the 16th century.

TABLE BEETROOT

Table beetroot originated in the eastern part of the Mediterranean and 3000 years ago were introduced in Sicily, Greece and Syria. Later they spread to Rome and elsewhere in Europe. In Latvia beetroot was introduced through Kiev in the 13th century.

PEAS

Peas, celery, Spanish radish, garlic, leeks and asparagus have also been grown as cultivars for approximately 2000 years. The homeland of cultivated peas is not clear, it is assumed that they emerged from tropical regions. Literature sources indicate that in our territory they were already grown at the end of the 4th century AD. Archaeological excavations have found grains of peas in the hillfort of Ķentes hill (Ogre district) 6th – 7th century.

BEANS

Garden beans are an old cultivar. They originated from the Mediterranean region. Introduced in Latvia in from the 4th to the 7th century.



TOMATOES

Tomatoes, peppers and potatoes come from America. It is believed that they developed from the wild semi-cultivated tomatoes due to spontaneous mutations or selection for many years. In Europe they were introduced at the end of the 15th century, in Latvia only at the end of the 19th century. The species 'Kondines uzlabotā' were created in the process of selection at the Pūre Horticultural Experimental Station from the species 'Kondine red', while the species 'Jūrmalas' was cultivated in the Tiraine vegetable selection and experiment station from the local selection tomatoes that were growing in the villages of Jūrmala.

RHUBARB

The Far East, mostly China and Siberia, are considered the homeland of the rhubarb, where wild forms can be found. In Latvia they were introduced as a food product in the second part of the 19th century. Tiraine vegetable selection and experiment station worked with the selection and augmenting of the species. 'Ogres 13' was a new perspective species grown with a selection of clones from the 'Ogres vietējiem', the species 'Tukuma 5' was also grown with a selection of clones from the 'Tukuma vietējie'(Tukuma Viktorija).

THE BEGINNING OF VEGETABLE GARDENING IN LATVIA

The beginning of the 19th century marked rapid development in vegetable gardening when the first enthusiasts started to work – introducers/improvers of new species, as well as propagators of vegetable gardening. Significant improvements in vegetable gardening were observed after the First World War when vegetable seed farming was neglected and seeds had to be imported from other countries.

With the establishment of the first horticultural experimental station in Latvia in Pūre (1930), systematic scientific studies in vegetable gardening started. During the thirties vegetable gardens in Latvia reached 10,000 ha which occupied 0.5% from the total area of arable land. Gardening agronomists J. Plaudis, J. Reņģe and professor J. Sudrabs invested a lot of work in the development of vegetable gardening at the beginning of the 20th century.

VEGETABLE GARDENING DURING KOLKHOZ TIMES

During World War II, the gardening level reached a very low point and there was a severe lack of several vegetables. Vegetable garden areas increased during the post-war period and the largest areas were comprised of kolkhoz lands. Of all vegetables, cabbage was grown the most – 40% of the total vegetable garden area, cucumbers – 20%, carrots and tomatoes 12%, onions and other vegetables – 8%. Vegetable gardening was considered a profitable agricultural sector, which was shown by the operation of the kolkhoz of these times: „Mārupe”, „Spilve”, „Lāčplēsis”. A huge emphasis was put on the totality of correct agro-technical activities and the necessity to replace manual labour with machine work to promote more rapid development of vegetable gardening, as well as reduce the cost of the produce. In the middle of the 20th century a suggestion was made to increase the size of Riga suburb kolkhoz from 1,600 to 2,600 ha, and with the help of suitable agricultural machines gather 20 tonnes of vegetables per hectare and at the same time use greenhouses to provide Riga with the required amount of vegetables.

VEGETABLE SELECTION

Scientific institutions also greatly impacted the development of vegetable gardening. The Pūre

for several years, he grew 'Dvietes' melon. A follower of Mičurins, A. Plavnieks, grew several species of peas, beans and cabbage. V. Bleiers grew valuable medium late-bearing species of cabbage. L. Kapiņš achieved the faster ripening of onions and higher productivity. The Ogre Horticultural Experimental Station tested these species.

THE CURRENT SITUATION IN MODERN GARDENS

- An excellent renaissance style vegetable garden can be visited in Brukna.
- Household gardens can also be turned into attractions.
- Traditional vegetables: rhubarb, pumpkins, carrots, beets, turnips, Swedish turnips, cabbage, beans, peas, chicory, asparagus (but not used as food), sorrel, hemp etc.

7.1.3. HERBS AND MEDICINAL PLANTS

Already since ancient times, people have gathered flowers, leaves, fruits or the roots of plants and passed on their knowledge from one generation to another. Historically, herbal teas were used for medical reasons, also as spices for food and for aromatic and therapeutic baths. Also as a colouring agent for cloth and yarn. Yet in the 17th century in Central Europe very many various herbs were grown - especially basil, balm, chicory, Indian cress, dandelion, fennel, hyssop, peppermint, arugula, sorrel and others. Over the course of time some were perceived as weeds, others forgotten (that was also characteristic of the current territory of Latvia), and later discovered as herbs again - like arugula and sorrel. Even though some of the plants still grow in the wild.

Herbs are especially important in adding benefits to the nutritional value due to their main ingredients - essential oils, including oils, alkaloids, glycosides, tannin, vitamins, trace elements, flavonoids, protein, bittering, organic acids etc. Cultivated herbs have a large content of vitamins, but herbs growing in the wild contain an even bigger amount of vitamins.

HERBS IN EUROPE

The fact that herbs and medical plants were spread through Central Europe was mostly the merit of King Carl the Great. In 1812 he issued a decree of

what plants should grow on his estates: anise, garden savory, southernwood, fennel, garlic, coriander, lovage, Indian cress, sage, rue, celery, rosemary etc.

Hildegard of Bingen was one of the most prominent women of Medieval times – she compiled a catalogue of 280 herbs and trees describing their use in the treatment of diseases. Some of the herbs were local and they could be picked in nature or grown in the garden of a cloister but some were imported from nearer and further countries. Many herbs originated in the Mediterranean region. They were grown increasingly further to the north where climatic conditions were more severe. Time passed and when the printing of books was invented, the knowledge preserved by cloisters was made public. Thus herbs and medical plants could be more easily found in the gardens of peasants and city dwellers.



Development in the science of medical plants took place from the 18th to the 19th century thanks to the efforts of Sebastian Kneipp, Johan Kinkle and Samuel Hahnemann. But the use of herbs rapidly declined during the 20th century, except for parsley and chives. Modern man did not recognize the other herbs even though older people use them in their every day life. We can say that the 21st century witnessed a renaissance in the majority of herbs, as they are an integral part of a meal and people think and want to live in a healthier and more natural way.

Especially interesting and rich were the herb gardens in England, frequently using elements from renaissance period regular style gardens. The origins of gardens of this style dates back to medieval times when lavender, sage and rosemary were planted as a decorative green hedge next to the castle walls.

HERBS IN LATVIA

It is quite difficult to obtain information about what herbs were used in Latvia, since in the old days this information was studied little or not at all. One of the most important sources of information in the old days that has lasted until today is oral evidence about the use of wild plants and cultivars in nutrition, as well as various recipes.

Medical plant stores are mentioned in written sources in 1291, but the first pharmacy in the Baltics was created in Riga in 1357. The pharmacy sold herbal medicine, spicy wines, essences, infusions and brews, tinctures, ointments and also spices. The rapid development of pharmaceutical gardens in Latvia started already in the 14th century. All this is evidence of the importance and significance of using aromatic and medical plants.

Latvian folk-songs name more than 200 herbs, 58 species are mentioned as foreign cultivars but 150 - wild species. Folk-songs most frequently spoke about wormwood and mug-wort. Poppies were the most frequently mentioned plants in folk-songs. Folk-songs also frequently mention southern-wood, many times together with tansy. Southern-wood is an old cultivar. Already grown in Germany in the IX century. Popular in gardens. Here in Latvia it is sometimes found in the wild and is also found in the old gardens of manors. Folk-songs also mention various medical plants grown in the gardens: spearmint, hyssop and thyme, parsley, dill, horseradish, etc.

FORMATION OF THE MEDICAL PLANTS SECTOR

The growing of herbs is closely connected with the

formation of the medical plants growing sector in Latvia. In 1919, when Latvia became an independent country, the Congress of Latvian Pharmacists acknowledged the necessity to grow medical plants. Around 1920 a farm in Rāmava started research on the growing of herbs and medical plants. In 1922 the Institute of Pharmacognosy established an herb and medical plants experimental and signature nursery in Dreilīņi, and after that in Riga. Medical plants were grown next to schools of agriculture and gardening in Priekulī, Malnava, Bulduri, Bornsminde and the state-owned Rudzu kroga nursery. In 1928 the collection from Rāmava was transferred to the experimental and practical works farm Vecauce.

In 1934, along with the implementation of a safeguard duty on plants that grow sufficiently well in our agroclimatic conditions, growing medical plants and herbs became a lucrative field and in 1938 medical plants and herbs were grown on 614.88 ha, of which herbs were grown on 550,04 ha. At that time the cultivation of herbs took place in a quite large territory of the country: the districts of Bauska, Jelgava, Rīga, Valmiera, Valka, Talsi, Jēkabpils, Kuldīga, Cēsis, Ludza, Madona, Tukums, Liepāja and Daugavpils. In 1938/39 - 20 different species of medical plants were exported to Germany, Sweden, Estonia and other countries.

COLLECTION OF THE GENETIC RESOURCES OF PLANTS

The existing ex situ collection at the Institute of Agrobiotechnology at the Latvian University of Life Sciences was created as a collection representing the genetic variety of aromatic herbs and medical plants, and currently can be considered as the main collection of the genetic resources of aromatic plants. The collection was started during the sixties of the previous century with the purpose of introducing students and interested parties with local and imported species of herbs and also perform studies about ecology and the agrotechnology of herbs. Over time the collection was gradually renewed and supplemented. In 1975 several local species of wild plants also used in medicine and as a food were added to the collection, but in 1994 focused additions to the plant genetic resources collection were started. As of 2008, the collection had 13 species and 120 clones (Žukauska, 2008).



"Avotiņi" farm medical plant garden

SOME OF THE MOST POPULAR HERBS



PEPPERMINT

Peppermint is a plant with a long history. Peppermint has a very vast family because these plants easily cross with each other creating new combinations. The peppermint that we all know currently is also not an „original“ but a cross of species the English were interested in, in the 17th century and introduced into their cuisine not as a tea, but as an herb. In Latvia peppermint was only introduced in the 18th century. In Latvia we call several types of mint peppermint since the main criteria is the aroma of menthol so characteristic of it. Peppermint is a hybrid of spearmint and water mint. Spearmint has been known in Latvia for a long time and is also mentioned in Latvian folk songs. Sometimes it is also called garden mint. Spearmint is one of the most popular and versatile garden mints.

BASIL

Basil is called the king of spices. Over the course of time sweet basil travelled through Persia to the Mediterranean countries, afterwards with the decree of Carl the Great – also to Central Europe but experienced real growth during the last decades when Italian cuisine became trendy in a larger part of Europe. Like most herbs, basil in its initial period was used not in cooking, but as a treatment for diseases and even magic. There are at least 60 different species of basil – with green, violet and even mottled leaves.

LEMON BALM

Testimonies about lemon balm have been preserved for several thousands of years. During the 15th and 16th century it was grown wherever possible. It is hard to find another plant that could compete with its healing properties. In modern times lemon balm in natural conditions can be found in

the Mediterranean region and Western Asian countries, but it is widely cultivated all around Europe as it rapidly becomes a component of refined cuisine.

MARJORAM

Marjoram is similar to parsley and chives and is one of the three most popular herbs in Central Europe. Though it is rarely mentioned, marjoram is one of the oldest herbs written about in the history of global cuisine.

THE CURRENT SITUATION IN MODERN GARDENS

Two types of gardens are common:

- A collection with a large diversity of plants – has a story and is a tourism object.
- The kitchen garden of a farm – it can also be turned into an object of attraction by creating a story.

Traditional herbs and medical plants:

- Cultivars: various mints, parsley, lovage, dill, onion, garlic, chive, horseradish, southernwood, oregano, sage, motherwort, common rue, soapwort and others.
- Wild plants, (if they grow in the garden and are used!) – for example, hops, St John's wort, avens, mullein, thyme, sweet flag, nettle, lady's-mantle, creeping Cinquefoil and many others.

7.1.4. DECORATIVE GARDENING

The origins of gardening can be found in olden times when people gradually started to gather wild plants and grow them close to their place of residence. In the beginning they cultivated plants that grew faster and were edible. Decorative plants gained their role later.



TYPES AND STYLES OF GARDENS

Over the course of time, the style of gardens, the assortment of flowers and bushes that were grown there has markedly changed. Geometrically shaped gardens in Ancient Egypt and Assyria were already found 3000 and 2000 years BC. The Renaissance period started from the 14th to the 16th century in Italy where one-year flower beds in ornamentally geometric shapes were created and placed in the parterre - the flat part of the garden near the dwelling house. Baroque style gardens prevailed from the end of the 16th century until the middle of the 18th century. Their origins can be found in France. The typical baroque garden in Latvia is Rundale Palace Park. Gradually baroque gardens were turned into landscape gardens where the parterre place was left by the palace but the remaining part of the park was created according to free planning. Its origins are related to England.

FLOWER GARDENS

History provides data that flowers have been cultivated since 3000 BC in Ancient China, Egypt, India and other places. There are leaves and flowers of mockorange, leaves of ficus found in the pyramids of Ancient Egypt. Lotus, lilies, mignonettes and other flowers were also popular in Egypt. Roses, lilac, lilies, violets, anemones, hyacinths, tulips and daffodils were popular in Iran. The gardens of Greece were also very rich in different flowers. There were peonies, gillyflowers and iris there.

But a lot of time passed before people started to seriously engage in floriculture. China is considered the mother of gardens, and we can find poems and songs about flowers in the song books dated around 770 to 476 BC. The most sophisticated people in China during the feudal times thought that they feel flowers the best when they drink tea or wine. Usually they specially selected a place and time where they could simultaneously enjoy these drinks and feel the effect of flowers. Floriculture experienced the most rapid development in the monasteries of Rome.

The chronicles tell us that the first gardens in Russia were established in the 11th to 12th century. During the 13th century decorative gardens were established in the Grand Duchy of Moscow, Vladimir and Ryazan. Gardens around monasteries were



Brukna manor kitchen garden

established in the 16th century where decorative shrubs were also planted alongside fruit trees. Roses were already grown in Moscow in the 17th century. Around this period the first botanic garden was also established in Petersburg. In the 18th and 19th centuries parks and gardens were also created outside the borders of Moscow and Petersburg.

THE DEVELOPMENT OF GARDENS IN LATVIA

The first definite information about Latvian gardens can only be found at the beginning of the 14th century. Catholic monks were the first pioneers of gardening and the gardens of catholic monks of those times were also the first gardens in Latvia. They were the so-called natural farms. Later in the 16th century natural farming, both in Western Europe and Russia, and also here, started to weaken as the so-called "money" farms were created. Later in the 18th century in Latvia, similarly to the garden of Peterburg in Russia, the first regular garden in Riga was created - Viestura garden with uniform ponds and a linden alley in it. In 1721 Peter the First planted an elm in this garden.

MANOR GARDENS

At the end of the 18th century and the beginning of the 19th century, merchants from Western Europe acquired many manors, and started to also establish gardens in these manors. French aristocracy that looked for shelter with our landlords, declared that "sophisticated style" demands a park and garden near every castle and manor. These gardens were not available for the public. Up to this time all plants were imported, mainly from England and Holland. In Latvia there are 112 species of ligneous plants growing in the wild. Over the centuries at least 600 species introduced in the green areas of manors gradually adjusted to our climate.

NURSERIES AND GARDENING

Johann Hermann Zīgra established the first nursery in Riga at the end of the 18th century, beginning of the 19th century. In 1798 the nursery was established by buying small, broke nurseries. He grew little known plants in this nursery. Sources of literature indicate that 14 species of iris, 9 species of phlox, 5 species of lilies, 2 species of peonies and other flowers were included in the catalogue of 1805, but in 1828 there were already 55 species of dahlia, as well as many one-year species and families of flowers. In 1816 K. Vāgners established a plant and seed trading company in Riga. In those times plants and seeds were imported from France, Germany, Belgium, Holland and later augmented in Latvia.

In 1836 one enterprising gardener, K.V. Šohs, created the gardening firm "C. W. Schoch" with a seed store and nursery in Riga. K. V. Šohs firm purchased seeds and plants from Western Europe for cultivation, grew and sold them to the landlords and other wealthy people in the Baltics, as well as in Saint-Petersburg. An 1859 catalogue included more than 200 species of roses and more than 300 species and cultivars of different winter greens and other decorative plants.

With the development of gardening in manors,

even though minor, cities and towns also started to pay a certain attention to the decorative aspects of gardens. In 1829 Vermanes Garden was also established in Riga, H. Geginger also took part in the creation of the garden; in 1851 he founded a firm in Riga and supplemented the green areas of Vermanes Garden with many new plants.

In 1876 the Riga Gardening Society was established, uniting both gardeners of German origin, merchants, craftsman and German intelligence. From 1877 Klēvers was engaged in the growing of decorative plants in Durbe and in 1890 he published his first gardening book „Baltijas dārzu draugs (Friend of Baltic Gardens)” where he described growing 209 ligneous plants and 160 decorative ligneous plants. S. Klēvers grew most of these plants on his farm in Durbe.

V. Kreslers nursery operated at the end of the 19th century and beginning of the 20th century in Riga, Ilģuciems, where he also grew chrysanthemums. One of the first Latvians to open a seed store in Riga was F. Lasmanis, he was also actively engaged in social activities and in 1899 founded the Riga division of the Imperial Russia Gardening Society. He also took part in establishing the Bulduri Horticulture





School. The florist P. Dindonis and landscape designer M. Ropmanis made a huge contribution to the development of decorative gardening; together with J. Sudrabs they were in charge of gardening courses in St. Petersburg. Later P. Dindonis returned to Latvia and became the Director of the Bulduri Horticulture School.

An intensive introduction of flower bulbs started in the 18th century, but flower bulbs were not grown in Latvia at this time; every year people purchased them in Holland and only used them for the forcing into blossom in winter. There were many well-known selectionists in the 20th century and up to now in Latvia; they engaged in the selection of various flowers.

RIGA PARKS AND GARDENS

Riga parks and gardens are a certain depiction of the social and aesthetic requirements of the times. From this perspective we can divide the development of Riga parks and gardens into several time frames. The first timeframe relates to the feudal century and continues from the 13th century until the beginning of the 18th century. In this period gardens were practically absent as the city was closed off by stone walls. From 1710 to 1812, due to army attacks, well-kept suburban gardens and buildings were also destroyed. The Riga fortification walls were torn down by 1860. As of 1860 the development of Riga's green areas started. In 1880 Georg Kuphaldt was appointed as the city gardener and later he became the Director of Riga gardens and parks. New green areas were created in the Castle Square, Albert Square, Jacob Square and other places. Also the outskirts of the city received more attention. Andrew Zeidakas was the second gardener who contributed to the development of gardening art in Latvia and in 1915 he was appointed as the Director of City Gardens.

THE CURRENT SITUATION IN MODERN GARDENS

DECORATIVE SHRUBS

- Historical roses: The Rundale Rose Garden, Old roses in the nursery „Vilki” - „Kūku roze”/”Imantu roze” (*Rosa centifolia*), „Tējrozīte”/”Meitrozīte” (*Rosa majalis*, *Foecundissima*), White roses in Arendole (*Rosa alba*?). In many places - burnet roses, wrinkled roses. Latvian selection roses (the second half of the 20th century).
- Old lilac species - frequently unknown but easy to determine from flowers, including, Amur lilac (grows as a small tree, late blooming), Dobele lilac garden.
- Mockorange (*Philadelphus*).

FLOWERS

- Wintergreen: species not known (can be 100 years old, especially for peonies – *a specialist can determine*).
- Traditional flowers: peonies, phlox, asters, daisies, rudbeckia, elecampane, day-lilies, iris, monk's heads, columbines, aruncus, hosta, ferns etc.
- Summer flowers (including two-year): calendula, hollyhock, poppies, daisies, dianthus, foxgloves, summer chrysanthemum and others.

7.2. LITHUANIAN HORTICULTURAL HISTORY

In the history of world culture, the park, the orchard, the garden, and the flower garden were one and the same since their emergence. Trees, fruit trees, vegetables and flowers all grew in one place. The park, the orchard, the garden, and the flower garden began to diverge in the 15th century, and separated completely in the 16th century.

The emergence of orchards at Lithuanian manors and monasteries. In Lithuania, orchards began to appear in manors and monasteries back in the 14th century. Based on historical facts, Lithuanian Grand Duke Jogaila bestowed quite a bit of land and an orchard to the Bishop of Vilnius in 1387, and Grand Duke Vytautas brought Tatars and Karaims to settle in Lithuania in 1395 and 1398, not only because they were good soldiers, but also because they were good gardeners. According to later sources, Lithuanians knew how to graft and cultivate fruit

tree cultivars – for example, the second Statute of Lithuania (1566) provided fines for cutting down or rooting out a grafted tree. The first knowledge of Lithuanian horticulture is found in manor inventory lists. From them, we can see that there were more than 30 orchards in the 16th century. Manor gardens had apple, pear, plum and sour cherry trees, and large manors – especially in Samogitia – also grew sweet cherries. The manor workers also had a few fruit trees planted on their own plots of land. Sweet cherry cultivars from Europe were introduced at manor and monastery orchards in Lithuania – and especially in Samogitia – in the 19th century.

7.2. 1. FRUIT GROWING

ORCHARDS AT FARMSTEDS

Since the end of the 19th century, orchard plants spread profusely at Lithuanian farmsteads, when grafts taken from manor and monastery orchards were grafted onto European crab apple trees and pear trees, and seedlings were grown from the seeds of open-pollinated orchard plant cultivars. This is how the folk crop varieties emerged: apple – ‘Žemaičių grietininis’, ‘Lietuvos cukrinis’; pear – ‘Vasarinė sviestinė’, ‘Vandenė’; plum – ‘Vietinė geltonoji’, ‘Čirkšlė’; sour cherry – ‘Vietinė rūgščioji’, ‘Žagarvyšnė’. Sweet cherries appeared at farmsteads multiplied with root sprouts and seeds. This is how the so-called ‘Samogitian sweet cherry’ population (‘Žemaičių geltonoji’, ‘Žemaičių juodoji’, ‘Žemaičių rožinė’, etc.) was formed. The development of orchards accelerated in the second half of the 19th century after the abolition of serfdom. Information has been found in sources that there were about 38,000 hectares of orchards in Lithuania at that time. Prior to World War I, the orchards were usually not large, and the fruit trees were planted in no specific



manner. The apple, pear and cherry trees only started being planted in neat rows during the interwar period. Among all the fruit trees, apple trees had perhaps the largest range of species, while the selection of pears or sour cherries was much sparser. The orchards suffered considerably during the wars, and only about 17,000 hectares were left after World War II.

Thus, horticulture in Lithuania has old and beautiful traditions. There probably isn't a single homestead in the Lithuanian countryside without an orchard. Every homestead had an orchard of some size. Everything that was grown at Lithuanian homesteads of old had a meaning and a purpose. No bush, flower or tree was planted without reason. Some were grown for decorative purposes, while others were planted for their magical powers, medicinal properties or fruits.

THE EVOLUTION OF HORTICULTURE

In his elementary work on botany entitled *Démonstrations élémentaires de botanique*, Jean-Emanuel Gilibert states that Lithuanian peasants knew how to graft in the 18th century. They grew apple, pear, plum and sour cherry trees in their orchards, and grapes on the south side of their houses. In the late 19th century and early 20th century, the development of Lithuanian horticulture was significantly impacted by Vincentas Montvila (1846–1903), Professor Adomas Hrebnickis (1858–1941), and Professor Tadas Ivanauskas (1882–1970). It was through the efforts of Vincentas Montvila that the first assortment of fruit tree varieties grown in Lithuania was approved in 1899. In 1886, Professor Adomas Hrebnickis planted a pomological garden near Dūkštas that he called ‘Paradise’. He found and described native Lithuanian apple varieties such as ‘Beržininkų ananasas’, ‘Jono pepinas’, and ‘Panemunės baltasis’, among others. Hrebnickis was one of the co-authors of the *Fruit Atlas* (Атлас плодов), which was based on variety research that was carried out. As horticulture developed, the questions gardeners were having needed legitimate answers. Professor Tadas Ivanauskas took this upon himself in 1920–1924 at Obelynė, where he had a pomological garden. Based on variety research, observations and experience, Ivanauskas prepared the Lithuanian standard fruit plant assortment, presented the first division of Lithuania into horticultural zones, and published an article entitled ‘What fruit trees to plant’.

The first pomological apple orchard for scientific purposes was planted in Dotnuva in 1938, after the establishment of the experimental station for horticultural crops, which was reorganised in 1987 into the Lithuanian Institute of Horticulture in Babtai (as of 2012 – the Lithuanian Research Centre for Agriculture and Forestry Institute of Horticulture (IH LRCAF)).

The pioneers of orchard plant selective breeding in Lithuania can be considered its residents, who singled out the best fruit trees and berry bushes and began growing them at their homesteads. The first person to initiate targeted selective breeding of orchard plants in Lithuania was Ipolitas Štaras (1905–1966), at his small orchard in Birutė Village, near Kaunas, in 1940. This is where the first apple and pear tree varieties were developed, and several hundred hybrid seedlings were grown which were later transferred to the Vytėnai Horticulture Experimental Station.

HORTICULTURE TODAY

Over the course of 80 years, the Institute of Horticulture in Babtai (IH LRCAF) has collected, developed, introduced and studied more than 2,000 apple, 600 pear, 400 plum, 80 sour cherry, 200 sweet cherry, 400 black currant, 70 red and white currant, 200 gooseberry and 450 strawberry varieties and hybrids. Valuable collections of orchard plant genetic resources have been cultivated, examples of which are Lithuanian folk crop varieties developed and introduced by the IH LRCAF. The accumulated gene bank is used for research and selective breeding. The orchard plant collections are cultivated at the Vilnius University and Vytautas Magnus University botanical gardens and at Aleksandras Stulginskis University.

LITHUANIAN HERITAGE VARIETIES

There are currently about 2,200 varieties and forms of orchard plants being grown in Lithuania. In terms of genetic resources, the heritage folk crop varieties are extremely valuable, and the following have been included on the National List of Plant Genetic Resources: apple – ‘Beržininkų ananasas’, ‘Lietuvos pepinas’, ‘Baltasis alyvinis’, ‘Pilkasis alyvinis’, ‘Rudens dryžuotasis’, ‘Panemunės baltasis’, ‘Sierinka’, ‘Žemaičių grietininis’, ‘Popierinis’, ‘Jono pepinas’; pear – ‘Ankstyvoji dulia’, ‘Lyvų berė’, ‘Vandenė’, ‘Vasarinė sviestinė’; plum – ‘Vietinė geltonoji’; sour cherry – ‘Vietinė rūgščioji’;

‘Žagarvyšnė’; sweet cherry – ‘Žemaičių geltonoji’, ‘Žemaičių rožinė’, ‘Žemaičių juodoji’.

GARDENS TO VISIT:

- The orchard growing at [TADAS IVANAUSKAS HOMESTEAD'S OBELYNĖ PARK](#) is one of the richest sources of heritage apple genetic resources.
- [IZIDORIUS NAVIDANSKAS PARK](#) (Žemaitija Botanical Park) has a three-hectare apple orchard that was planted before World War II.
- [ŽAGARĖ REGIONAL PARK](#). In order to preserve Žagarė's cultural and natural heritage and uniqueness the cherry orchard was planted. Every year the Žagarė Cherry Festival takes place in July when the cherries are ripe.
- [GARSIOS TYLOS \(LOUD SILENCE\) HOMESTEAD](#) has 100-year-old orchard with about 113 apple trees, 18 pear trees and 8 sweet cherry trees. Host could prepare the degustation from products which grow in their farm.



7.2.2. VEGETABLE GARDENING

THE EMERGENCE OF GARDEN PLANTS IN LITHUANIA

Grains and meat were the main food products for Lithuanians in the 13th and 14th centuries. The grain crop ration used to be supplemented with garden plants. One of the earliest garden plants to become widespread was the turnip. The turnip seeds, hoes, and occasional shovel remnant found by archaeologists attest to gardening cultures in Lithuania since the 13th–14th century.

THE EMERGENCE OF VEGETABLES IN LITHUANIA

It can be argued that no vegetable being grown in Lithuania today is traditional, since their wild

ancestors do not grow in our country. The only plant that was used for food in the 16th to 19th centuries and whose origin is truly Lithuanian is hogweed. Vegetables were brought in from different countries at different times. Vegetables came to Lithuania from the east coast of the Mediterranean, then from the territory of Germany, and finally from Italy in the 16th and 17th centuries. From the German regions we brought in turnips, rutabaga, horseradish, and later – cabbage. At the same time, peas, beans, lentils, poppy seed and rhubarb were also spreading. A greater variety of vegetable appeared in Lithuania in the first half of the 16th century, when Sigismund I the Old married Bona Sforza, an Italian princess who brought Italian manor culture and traditional cuisine with her. Parsley, dill and carrots began to be grown in abundance. The Tatars and the Karaims brought quite a few garden plants with them in the 14th and 15th centuries – they were the ones who started growing cucumbers and alliums in Lithuania. The artists and craftsmen from the Balkans who worked in the court of Vytautas and Jogaila and painted the Trakai church, and the people who served Alexander I Jagiellon, including Hungarians, Serbs and Ruthenians, also brought their lifestyles and plants to Lithuania. The Spanish professoriate at Vilnius University also influenced the spread of a variety of garden plants. Culinary herbs and spices such as coriander and sunflower have been present in orchards and gardens since the 16th century. Potatoes came to Lithuania during the reign of King of Poland and Grand Duke of Lithuania Augustus III (1696–1763), presumably through Rietavas. Potato fields initially spread on manor grounds, but soon all farmers began growing them. In the 18th century, some of our nobility and amateur botanists cultivated potatoes in conservatories as ornamental plants, due to their beautiful blossoms.

THE DEVELOPMENT OF VEGETABLE FARMING

Up until the beginning of the 20th century, vegetable varieties from foreign countries were grown in Lithuania: Braunschweig cabbage, Muromskiy cucumbers, Egyptian beetroot, etc. Only the regions of Kėdainiai and Trakai grew their own cucumbers and distributed their seeds. In 1913, approximately 13,000 hectares of land were being used to cultivate vegetables in Lithuania. Scientific research on garden plant genetic resources began

in 1924, in the educational garden at the Dotnuva Agricultural Academy. At the initiative of Professor Stasys Nacevičius, numerous collections of introduced garden plants were accumulated. The first selective breeding was carried out by way of selection. 'Bielorusiška Dotnuvos' cabbage and 'Lietuvos didieji' onions were bred from imported varieties, and 'Dotnuvos tobulybė' tomatoes were cross-bred. Local populations accounted for 30–70 per cent of the total collection. The goal of selective breeding is to create high-yielding, disease-resistant vegetable varieties and hybrids that are of good quality and adapted to local conditions. Garden plant genetic resources are collected, studied and stored at the Lithuanian Institute of Horticulture Plant Gene Bank.

LITHUANIAN VEGETABLE VARIETIES

Garden plants are annuals, biennials and – less often – perennials whose leaves, petioles, stems, juicy inflorescences, fruits, roots, rhizomes or tubers are used for food. Cabbages, beetroot and carrots are cultivated the most in Lithuania, accounting for 80 per cent of vegetable crop area, with just 20 per cent left for other vegetables. Vegetable varieties created in Lithuania are better adapted to local weather and





soil conditions – they feature a good biochemical composition, and they are high-yielding and suitable for outdoor cultivation.

Tomato varieties – ‘Aušriai’, ‘Drūčiai’, ‘Svara’, ‘Rutuliai’, ‘Skariai’, ‘Milžiniai’, ‘Jurgiai’. ‘Laukiai’, ‘Balčiai’ and ‘Slapukai’ are tomato varieties that are suitable for outdoor cultivation, while ‘Ryčiai’, ‘Vytėnų didieji’, ‘Neris’ and ‘Viltis 2’ are particularly resistant to temperature fluctuations. ‘Trakų pagerintojai’ and ‘Kauniai’ are cucumber varieties developed on the basis of local populations. Lithuanian carrot varieties: ‘Garduolės’, ‘Gausės’, ‘Šatrija’, ‘Vytėnų nanto’, ‘Vaiguva’. Beetroot varieties: ‘Vytėnų bordo’, ‘Nevėžis’, ‘Kamuoliai 2’, ‘Joniai’, ‘Ainiai’, ‘Ilgiai’. These carrot and beetroot varieties are high-yielding, disease-resistant, and have a good biochemical composition; they are adapted to the climate and do well in winter. Other Lithuanian vegetable varieties: white cabbage – ‘Bielorusiška Dotnuvos’, ‘Bagočiai’, capsicum – ‘Reda’, ‘Alanta’, onion – ‘Lietuvos didieji’, ‘Babtų didieji’, radish – ‘Žara’, ‘Babtų žara’, ‘Kretingos pagerinti’, ‘Liliai’, garlic – ‘Vasariai’, ‘Žiemiai’, broad bean – ‘Vindzoro baltosios’, green bean – ‘Baltija’, ‘Baltija 2’, chives – ‘Aliai’, as well as a coriander variety – ‘Raslė’.

KITCHEN-GARDEN TO VISIT:

- GIEDRIKAI ORGANIC FARM grows about 50 different organic vegetables and greens in 10 hectares size farm. Outdoor and greenhouse vegetables are available in markets.
- VYTAUTAS MAGNUS UNIVERSITY KAUNAS BOTANICAL GARDEN. More than 20 species of traditional heritage vegetables varieties are grown in the educational garden.
- JAPANESE GARDEN. The heritage cultivated plants include carrots, beetroot, and cabbages. They have very large collections of onion and garlic, also heritage tomato varieties has been assembled.

7.2.3. ORNAMENTAL AND MEDICINAL PLANTS

THE EMERGENCE OF ORNAMENTAL AND MEDICINAL PLANTS IN LITHUANIA

The first hints of flower gardens are believed to have appeared in our country in the 14th century, when monasteries began to be founded in Lithuania. In the Middle Ages, according to Christian provisions, flowers were not used in the home. Together with medicinal plants, they were only allowed to be used for therapeutic purposes. It is only natural that plants meant for food, treatment or other purposes made their way to the people from traditional monastery gardens.

ORNAMENTAL PLANTS IN LITHUANIA

The appearance of many ornamental plants in Lithuania dates back to the 16th and 17th centuries. After the Voklo Reform, Lithuanians learned to farm independently and could allocate part of the land to plant ornamental or otherwise useful plants. During the Renaissance, fashionable plants from Europe made their way from the manors to the everyday life of the people of Lithuania. Part of them came



from southern Europe (green rue, common peony, English lavender) or central European (lesser periwinkle, wolf's bane, Sweet William). Ornamental plants that originated from Asia (Madonna lily, love-in-a-mist) were first adapted to southern Europe and only made their way to Lithuania in the 18th century. Ornamental plants also caught on in the gardens of peasants. Decorating homesteads became particularly popular after the abolition of serfdom in 1861, when the peasants were given personal freedom and the right to buy out land. Lilies of the valley, common soapwort, wild pansies and tansies were all common in traditional flower gardens. Yellow flowers were less valued in Lithuania than white, red, blue or purple blossoms.

Rasa Žumbakienė, senior museologist at the Open-Air Museum of Lithuania, says that the words *darželis* (small garden) and *sodelis* (small orchard) have several meanings in the Lithuanian language – a place where children are educated, a straw mobile, a ring for the glass of an oil lamp, an extension of a sledge (to seat more people), and finally – a flower garden. As soon as a house was built – or sometimes even while it was still under construction – the woman of the house would set up a garden. This little plot of land provided a lot of information about her work ethic, kindness, and even beauty. Beggars could take one look at the garden to decide whether good people lived there and whether it was a place worth stopping. The garden was usually set up in the yard, or in towns – between the window and the street. Efforts were made for the flowers to bloom by the windows so that the people working inside could enjoy them as well. Every garden had to have rue, and southernwood was a mandatory element in the Aukštaitija region. Peonies, which mothers shared with their daughters, were a popular flower, and stealing sprouts was a punishable offence. The people in the Dzūkija region loved costmary and would put a sprig in their prayer books or in other places – it was like a primitive form of perfume. Bleeding hearts, phlox, nasturtium, marigolds and hollyhocks were popular everywhere. During the interwar period, gardens started to contain more blossoming, ornate plant species, among which annuals were predominate. At first, flowers were planted in round or rectangular gardens, but Lithuanian women later took a liking to more diverse shapes such as hearts, diamonds or triangles. They would frame the gardens with pebbles, turf cut from the meadow, or

braided willow. They would scatter gravel or sand in the space between the flower beds. There were all kinds of fences: wattle, picket, pole, wicker or plank. They often used to hang earthenware and jugs on the fences, or used them to dry clothes on. After World War II, when individual farms began being dismantled and traditional gardens were abandoned in new settlements and towns, other types of flower gardens emerged.

Medicinal plants, culinary herbs, or certain perennial vegetables (rhubarb, chives) were often grown in the traditional flower garden as well. Plants were cultivated that were not only beautiful, but also fragrant, suitable for treatment, to season food, for ceremonies, or for household use (to dye fabrics, wash up, or get rid of insects).

MEDICINAL PLANTS IN LITHUANIA



When Stanisław Radziwiłł, the elder of the Duchy of Samogitia, gave the Jesuits medicinal herb gardens in 1593, Jėzuitų Lukiškės (the current territory of Vingis Park) became Vilnius University's intellectual and cultural centre and place of rest. The beginning of pharmaceutical science in Lithuania is also closely linked with Jėzuitų Lukiškės (the medicinal plant garden was first mentioned in 1646, and the tinctures and extracts made from the healing herbs were sold at Jesuit pharmacies). This medicinal plant garden used to be curated by a prefect appointed by the Academy's pharmacy specifically for this purpose. The garden consisted of 14 numbered plots of different sizes and configurations, divided into beds. The medicinal herb plots were planted with trees and separated by broad passageways. It is thought that they were cultivated for the purposes of the pharmacy. Juozapas Strumila (1774–1847), who promoted gardening, popularised the cultivation of medicinal plants and beekeeping, and

wrote numerous practical and educational works, is considered to be the pioneer of the cultivation of medicinal plants in Lithuania.

Lithuania has a long tradition of collecting, using and processing medicinal and aromatic plants. Medicinal plants were already known by people in ancient times, and knowledge was passed on by word of mouth. Since ancient times, there have been various collection customs and restrictions that protect plants from eradication and ensure good raw material quality; for example, it is only permitted to take every tenth plant, leaving nine to grow, and collecting trampled, sickly or spotted plants is prohibited. For many people – especially in the wooded areas of southern and south-eastern Lithuania – the collection of medicinal plants has long been a source of livelihood.

ORNAMENTAL PLANTS TO VISIT:

- [TRAUPIS BOTANICAL GARDEN](#) has more than 8,000 species, forms and varieties of plants in total. You will find everything from perennial flower collections and rock garden to a flower clock and decorative pool with aquatic plants.
- [VYTAUTAS MAGNUS UNIVERSITY KAUNAS BOTANICAL GARDEN](#). Heritage Lithuanian flower garden plants are displayed in different plant communities according to their botanical classification.
- [ŠIAULIAI UNIVERSITY BOTANICAL GARDEN](#) has over 4,000 different species and varieties of plants. At the botanical garden, you will find three heritage rural plant gardens arranged according to the traditions of the relevant period – pre-war, inter-war and post-war.
- [KLAIPĖDA UNIVERSITY BOTANICAL GARDEN](#). Over 250 plant species grow naturally in the garden.

In order to give visitors an understanding of the regional traditions, the botanical garden has a coastal ethnographic garden with flower arrangements characteristic of this area.

- There are about 30 different species and varieties of plants growing on the grounds of the [BALTIC PLANT MUSEUM](#). Created in the shape of a distaff, the flower garden is divided into three parts for sacral, household and cultural plants.

HERBAL FARMS AND EDUCATIONAL ACTIVITIES:

- [JADVYGA BALVOČIŪTĖ ORGANIC FARM](#) produces organic sprouts, single herb teas, and herbal mixtures made with Jadvyga's own recipes. In outdoor plant exhibition people can come during vegetation to see, taste and smell various herbs, and see rare, endangered indigenous plants and ornamental plants.
- [BERŽORAS HOMESTEAD](#) grows a variety of medicinal and culinary herbs, garden plants and aromatic herbs. The owners of this homestead carry out educational activities. Hen parties can be organised according to local traditions, and guests are welcome to take part in the Babūnė Tea Road education programme.
- [PAKALNĖ RURAL TOURISM HOMESTEAD](#). The owners cultivate rich collections of medicinal plants. The homestead holds educational activities for groups about herbs, medicinal plants and their benefits.
- [OPEN-AIR MUSEUM OF LITHUANIA](#). The Aukštaitija village features the 'fragrant garden', where you can become acquainted with the medicinal and culinary herbs grown at Lithuanian homesteads as well as their medicinal properties.





8. | EXAMPLES OF GARDEN TOURISM

8.1. ALTES LAND, GERMANY



The Altes Land region in the federal land of Hamburg is the largest area of orchards in Northern Europe. Hamburg/Altes Land is the second largest producer of apples in Europe after the South Tyrol region in Italy. Orchards comprise around 170 km², and locals have been involved in fruit growing for more than 700 years. There are around 650 fruit growing farms in the region today where 10 million fruit trees are growing and 90% of them are apple trees. The other plants are pear trees, plums and different types of berries. With the help of modern storage devices, fresh fruit is available from this region all year long. The most popular species of apples: Elstar, Jonagold dark red, Braeburn. The average size of a farm is 20 ha but larger farms are more than 100 ha.

Apple growing is more profitable if combined with tourism. The cafe and store of the farm gives most of the profit. For example, the wholesale purchase price of apples is 0.40 EUR/kg, but in the farm's store you can sell apples for 1.20 EUR/kg. People are willing to pay to relax and have a meal. A marketable offer is a picnic area on a farm where guests can receive a picnic basket, chairs and a grill. Others are offering apple-curry soup to the guests, telling them about their biological garden, giving healthy

food cooking lessons and, of course, adding good jokes to spice everything up. Also various souvenirs and accessories give their part to the profit and apple schnapps is a popular product.

There are regular thematic events and festivals held in the Altes Land region every year attracting lots of visitors. They organise both professional gardeners's days and, for example, cherry night, an open door day at the farms, apple days, apple pie festivals etc. Many farms create a special offer for tourists, opening the store, a garden restaurant or cafe at the farm, organising excursions in the orchard, tours in the manufacturing and storage rooms, tastings, souvenirs, training and the option to pick apples for yourself. All offers are easily accessible, for example, set working hours for the garden restaurant, the option to easily book a visit to the garden online, gift cards are available, in some gardens visitors can pick fruit at any time, information about the orchards is available on various internet sites etc.



Signs in the orchard Herzäpfelhof



Information stand in the orchard with a list of the trees

- Information stands and signs in the gardens

In addition to the excursions, information is provided in the orchards with the help of informative stands. Signs about the species are next to the apple trees. You can also set up a visitation path in the orchard that guests can walk through by following the signs.

- Rent your own apple tree

Many fruit-growing farms offer a concept called „sponsor an apple tree“. This means that anyone can choose a fruit tree and rent it for a definite period of time, for example, a year. Prices are different in various orchards, but the average price for this service is around 40,- EUR per year. A sign with the client’s name and rental period is placed next to the tree. The client can visit his/her tree on certain days and he/she is entitled to harvest the fruits in the amount of 20 kg. If the harvest from a particular tree is less, then the owner of the orchard adds the remaining amount from other trees.



Information sign - self-service garden instructions

- Self-service garden

Many gardens provide specific territories and set hours where and when visitors can pick fruit themselves for take-away. Information about these gardens and instructions for their use are placed in the nearby area – in stores and information centres

- A picnic in the garden

The farm also offers a picnic in the orchard. It costs around 20,- EUR per person. The price includes a picnic menu consisting of local products. There are tables, chairs and other facilities located in the orchard. Visitors usually book a table for the whole day. Some owners also offer a campfire place or grill and include food items in a picnic basket that can be cooked on the grill.



An information stand in the orchard with the name of the lease holder and rental period



Picnic place in the garden

- The Apple Diploma

The farms provide two hour training programs about fruit growing, characteristics and the selection of species etc. This offer costs 12,- EUR per person and includes the tasting of drinks, various apple species, presentation materials, training, an exam and a diploma.

- Packaging design

Several farms have developed a special design for product packaging, decoration and souvenirs. The Herzapfelhof owners pack their apples in wooden boxes of a special design. Clients can also order apples in the box with a personalized signature created as a sticker or engraved with a laser in the wood. Separate boards from old apple boxes with an engraved signature are sold as souvenirs for 16,- EUR apiece.

- Postcards

Farms print postcards which guests can send, sharing impressions with friends and relatives. Postcards provide information about the orchard, its products, visiting options and information on the internet.



Souvenir - postcard introducing the species of apples and carrying the logo of the farm

- Souvenirs

An ever present design element is the symbol of an apple used in various souvenirs. These can be stickers, apples in gift boxes etc. Larger farms glue stickers on their apples and distribute them as souvenirs-gifts or sell them during farmers markets. Hotels and other tourism places in the region also use the apple symbol in their marketing.

- Apple products

The owners find wise solutions of how to sell



„Kids apples“ in packaging

non-standard apples. They pack small apples separately and call them “Kids apples”. Small and other non-standard apples are used for baking of apple pies and sold as an “apple snack”. These items are sold in transparent packaging.

They also make distilled drinks from apples and offer excursions of the production premises.



Excursion in the production premises

- Apples as decorations

Beautiful apples are suitable to decorate stores, cafes, the premises of guest houses and make them more appealing and welcoming.

- Gift cards and internet shops

Various fruits and their products, as well as different tourism products related to orchards are very easily accessible, both for group and separate guests. Gift cards and online ordering options are very popular - in this way you can purchase fruits and various guides related to apple tourism.



QR code for garden information



Offer for an excursion in the orchard



Online ordering of fruits and fruit products

8.2. NORWAY, HARDANGER REGION

The Hardanger region is famous as one of the leading fruit growing regions in the country and the harvest from this region comprises around 40% of the total fruit production in Norway. Here apples, plums, cherries and pears are grown. Apples grow here since the 14th century when English monks brought in this experience. Apple trees really like the good climate and rich soil here. Hardanger apples are the third Norwegian product to have a specially protected geographical place of origin assigned. This region provides many fruit related tourism



activities, for example, hiking routes, offers to pick apples for yourself, festivities and festivals. There is a specially developed travelling route for cider <http://siderruta.no/> - the only one in all of Norway.



Fruit trees are planted to maintain the reputation of the fruit-growing region

Several romantic hotels offer special adventures during the fruit tree flowering period.

www.hotel-ullensvang.no/en/things-to-do/experience-hardanger/fruit-blossoming/

The self-picking of fruits here is not only to obtain fresh produce from the farmer but also to spend family holidays in the fresh air: **www.facebook.com/borvebaer/** and **www.borvebear.no**. Many farmers sell their produce directly to guests, providing a better price and making sure that products are

always fresh. What is not sold within a few days, is frozen and later sold as frozen products.



Kiosk on the roadside, where can purchase apple juice made in the farm. Money can leave in the box.



Hostess welcome tourist group in the fruit farm. Apple pie will be served together with stories about the farm.



Caravan camping in old apple orchard



Raspberry harvest in the freezer, will be sold in winter.



SOURCES OF LITERATURE

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1. „Auksio” veislės desertinių obuolių auginimo technologija” (Taikant priemonę “Tausojanti aplinką vaisių ir daržovių auginimo sistema”). 2014. (Sudaryt. N. Uselis). LAMMC SDI. Baltai, 158 p.
2. A. Atkočiūtė, A. Baliūnienė, A. Boguševičiūtė, M. Kaulaikis, A. Lučinskienė, E. Petrauskaitė, E. Radauskienė, J. Rugytė, J. Samsonaitė. Gėlių auginimo vadovas. Vilnius. 1971.
3. A. Dembovskis et al., 2007. Dārzenkopība. Rokasgrāmata lauka dārzenų audžēšanā. Pūres Dārzkopības izmēģinājumu stacija. 284 p.
4. Armolaitis A. 1993. Vaismedžiu genėjimas ir perskiepėjimas. Kaunas. 220 p.
5. Balode A. (2016) Puķkopība. Rīga: Burtene, 350. lpp.
6. Balode A. (2016) Puķkopība. Rīga: Burtene, 350. lpp.
7. Bertašiūtė R. (Sudarytoja). Kaimo statyba: Mažoji Lietuva, Vilnius: Valstybinė saugomų teritorijų tarnyba, 2013 m.
8. Bertašiūtė R. (Sudarytoja). Kaimo statyba: Suvalkija, Vilnius: Valstybinė saugomų teritorijų tarnyba, 2013 m.
9. Bimšteine G., Lepse L., Banina B., 2014. Kāpostu, burkānu, sīpolu slimības un to ierobežošanas iespējas. Jelgava: LLU, 104 lpp
10. Biohumusas ir ekoloģinē daržininkystē. 2006. Rasa Karklelienē, Ramutē Deimantavičienē.
11. Blažytė A. Lietuvos augalų nacionaliniai genetiniai ištekliai. Senosios lietuviškų vaismedžių veislės. Augalų genų bankas, 2008 m.
12. Blažytė A. Lietuvos augalų nacionaliniai genetiniai ištekliai. Daržo augalų genetiniai ištekliai. Augalų genų bankas, 2010 m.
13. Bone B., Folka R., Folka F., Ditusa-Bēra R. (2013) Garšaugu dārziņš. Rīga: Zvaigzne ABC, 247 lpp.
14. Briede G. (2008) Dārza papardes un zālveida ziemcietes. Rīga: LLU Akadēmiskais apgāds, 143 lpp.
15. Dāvidsone I. (1988) Rīgas dārzi un parki. Rīga: Liesma, 158 lpp.
16. Dindonis P. (1960) Puķkopība. Rīga: Latvijas valsts izdevniecība
17. Dindonis P. (1960) Puķkopība. Rīga: Latvijas Valsts izdevniecība, 404. lpp.
18. Dubonis A. Lietuvos istorija, t. 3, XIII a. – 1385 m.: Valstybės iškilimas tarp Rytų ir Vakarų. D. Baronas, A. Dubonis, R. Petrauskas. Vilnius.
19. Galēja I. (2011) *Garšaugi*. Rīga: Zvaigzne ABC, 168 lpp.
20. *Garšaugi, garšvielas*. (2003) Sast. D.Brutāne u.c. Rīga: Nordik, 191 lpp.
21. Gričius V. Vilniaus universiteto botanikos sodai XVII-XIX amžiuje. Prieiga per internetą: <http://www.bernardinai.lt/straipsnis/2013-11-14-vilniaus-universiteto-botanikos-sodai-xviii-xix-amziuje/109989>
22. Gruiniūtė E. Senosios sodybos: skambantys sodai ir gydantys gėlynai. Prieiga per internetą: <https://naujienos.alfa.lt/leidinys/statyk/senosios-sodybos-skambantys-sodai-ir-gydantys-gelynai/>
23. Gudžinskas Zigmantas, Balvočiūtė Jadvyga. “Lietuvos vaistiniai augalai: pažįstami, bet nežinomi, kūno sveikatai, sielos džiaugsmui” Kaunas: Šviesa, 2008.
24. Indriksonas E. (1992) *Garšaugi*. Rīga: Avots, 174 lpp.
25. Intensyvios obelių ir kriaušių auginimo technologijos. 2005. (Sudaryt. N. Uselis). Lietuvos sodininkystės ir daržininkystės institutas. Baltai, 208 p.
26. Intensyvios uoginių augalų auginimo technologijos. 2002. (Sudaryt. N. Uselis). Lietuvos sodininkystės ir daržininkystės institutas. Baltai, 212 p.
27. Intensyvios vaistinių augalų auginimo technologijos. Baltai, Sodininkystės ir daržininkystės institutas. 2006.
28. Intensyvios obelių sodas. 1988. (Sudaryt. A. Kviklys).
29. Įmonės steigimo etapai. Prieiga per internetą: <http://www.imonessteigimas.net>
30. Juškevičienė R., Radzevičius A. Daržo augalų veislių tyrimo metodika (2.11.). 2013. Mokslinės metodikos inovatyviems žemės ir miškų mokslų tyrimams, Kaunas, p.243-251.
31. Juškevičienė D. 2017. Darbingas rugpjūtis darže. *Rasos*, 9 (473)
32. Kapaklis (1928) Augļkopība. Rīga, 462. lpp.
33. Karklelienė R., Radzevičius A. Daržo augalų veislių tyrimo metodika (2.11.). 2013. Mokslinės metodikos inovatyviems žemės ir miškų mokslų tyrimams, Kaunas, p.243-251.
34. Kaškure A. (2012) Koki un krūmi Latvijas dārzam. Rīga: Jumava, 127 lpp.
35. Laužikas R. Istorinė Lietuvos virtuvė. Maistas ir

- gėrimai Lietuvos Didžiojoje Kunigaikštystėje. Vilnius, 2014 m., 208 p.
36. L. Lepse, 2016. Pākšaugi – no cūku pupas līdz sniega zirnim* (ISSN-1407-4338). Lauku avīze tematiskā avīze
37. Lietuvos ir Latvijos sodininkystės verslo studija. 2006. (Sudaryt. D. Kviklys). Lietuvos sodininkystės ir daržininkystės institutas. Baltai, 62 p.
38. Lietuvos pomologija. T. 1. 1990. (Sudaryt. V. Tuinyla). Vilnius. „Mokslas“, 333 p.
39. Lietuvos pomologija. T. 2. 1996. (Sudaryt. V. Tuinyla ir A. Lukoševičius). Vilnius. Mokslas ir enciklopedijų leidykla. 389 p.
40. O. Skeivienė. Gėlių auginimas. Vilnius. 1978.
41. O. Visockis. Daržovės ir prieskoniniai augalai. Vilnius. 1993.
42. Obelys. 2007. (Sudaryt. N. Uselis) Kaunas, Ūkininko patarėjas, 117 p.
43. Obelių apsauga nuo ligų ir kenkėjų (metodika). 2011. (Sudaryt. A. Valiuškaitė). LAMMC SDI. Baltai, 47 p.
44. Obuolių skynimo laikas (metodika). 2011. (Sudaryt. N. Kviklienė). LAMMC SDI. Baltai, 27 p.
45. P. Svetika, M. Baranauskienė, A. Kmitas, L. Kmitienė, K. Palaima, L. Petkevičienė, A. Dirsė, P. Baleliūnas, G. Gaučiūnė, V. Kapilioraitė. Daržininkystė, Vilnius. 1995.
46. Petronienė O. D. 2004. Daržininkystė. Akademija, Kėdainių r.
47. Profesionalaus naudojimo brošiūra „Intensyvi morkų auginimo technologija“. 2012. Vytautas Zalatorius, Ona Bundinienė, Danguolė Kavaliauskaitė, Elena Survilienė, Rasa Karklelienė, Roma Starkutė.
48. Rokasgrāmata lauku tūrisma uzņēmējiem „Drošība lauku tūrismā“. „Lauku ceļotājs“, 2014. <https://macies.celotajs.lv/course/view.php?id=47>
49. Sodas. Prieiga per internetu <https://lt.wikipedia.org/wiki/Sodas>
50. Šveistytė L. Lietuvos augalų nacionaliniai genetiniai ištekliai. Vaistinių ir aromatinių augalų genetiniai ištekliai. Augalų genų bankas, 2011 m.
51. Tytuvėnų regioninio parko direkcija. Tradiciniai elementai šių dienų sodybose: Tytuvėnuose apdovanoti 2017 m. konkurso laureatai. Prieiga per internetu: www.trp.lt/index.php?option=com_content&view=article&id=490%3Asodybu-konkursas&catid=35%3Atitul&Itemid=55&lang=lt
52. Valstybinė įmonė Registrų centras. *E. gidas: juridinio asmens steigimas*. Prieiga per internetu: <http://www.registrucentras.lt/jar/atmintines/e-gidas.php>
53. Valstybinė maisto ir veterinarijos tarnyba. Prieiga per internetu: www.vmt.lt
54. Valstybinė mokesčių inspekcija. Prieiga per internetu: www.vmi.lt
55. Valstybinio socialinio draudimo fondo valdyba prie Socialinės apsaugos ir darbo ministerijos. Prieiga per internetu: www.sodra.lt
56. Versli Lietuva. *Leidimai*. Prieiga per internetu: <http://leidimai.verslilietuva.lt/>
57. Venskutonis V. Sodininkystė. 1999. Vilnius. Enciklopedija, 221 p.
58. Ziņas avīze lauku tūrisma uzņēmējiem. „Lauku ceļotājs. 2014. gada ziemas izdevums http://www.celotajs.lv/content/prof/emagazine/pdf/2014/lc_avize_rudens_web.pdf
59. Žukauska I. (1997) *Garšaugu avīze*. Rīga: Lauku avīze, 47 lpp.
60. Žukauska I. (2008) *Netradicionālā dārzkopība: garšaugi, netradicionālie dārzeņi*. Studiju materiāls. Jelgava: LLU, 122 lpp (pdf)
54. Žukauska I. (2008) *Netradicionālā dārzkopība: garšaugi, netradicionālie dārzeņi*. Studiju materiāls. Jelgava: LLU, 122 lpp (pdf)
55. Valstybinio socialinio draudimo fondo valdyba prie Socialinės apsaugos ir darbo ministerijos. Prieiga per internetu: www.sodra.lt
56. Versli Lietuva. *Leidimai*. Prieiga per internetu: <http://leidimai.verslilietuva.lt/>
57. Venskutonis V. Sodininkystė. 1999. Vilnius. Enciklopedija, 221 p.
58. Ziņas avīze lauku tūrisma uzņēmējiem. „Lauku ceļotājs. 2014. gada ziemas izdevums http://www.celotajs.lv/content/prof/emagazine/pdf/2014/lc_avize_rudens_web.pdf
59. Žukauska I. (1997) *Garšaugu avīze*. Rīga: Lauku avīze, 47 lpp.
60. Žukauska I. (2008) *Netradicionālā dārzkopība: garšaugi, netradicionālie dārzeņi*. Studiju materiāls. Jelgava: LLU, 122 lpp (pdf)



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