AGENTURA OCHRANY PŘÍRODY A KRAJINY ČESKÉ REPUBLIKY

Zahradnická fakulta Mendelova univerzita v Brně

NATURE AND LANDSCAPE MANAGEMENT STANDARDS

TSES AND LANDSCAPE-FORMING ELEMENTS	**PLANTING OF FRUIT TREES IN THE AGRICULTURAL LANDSCAPE**	**SPPK C02 003: 2023** 1st revision
SERIES C		

Funkční výsadby ovocných dřevin v zemědělské krajině

Anpflanzung der Obstbäumen in Agrarlandschaft

This standard is intended for definition of agrotechnical operations connected with plot preparation, planting and follow-up management of fruit trees growing outside intensive production orchards up to 10 years of age on a permanent site.

References:

Lípa M., Boček S., Baroš A. (2014): Metodika stanovení záchranných sortimentů ovocných odrůd, Certifikovaná metodika VÚKOZ, v.v.i. č. 5/2014-050
ČSN EN 12944-1 Fertilizers and liming materials – Vocabulary – Part 1: General terms
ČSN EN 12944-2 Fertilizers and liming materials – Vocabulary – Part 2: Terms relating to fertilizers
ČSN EN 12944-3 Fertilizers and liming materials – Vocabulary – Part 3: Terms relating to liming materials
ČSN 83 9051 Vegetation technology in landscaping – Care of vegetation during development and maintenance in green areas
ČSN 73 736101 Design of highways and motorways
Act no. 89/2012 Coll., the Civil Code
Act no. 326/2004 Coll. on Phytosanitary Care and on amendment of certain acts, as amended
Act no. 219/2003 Coll. on Marketing of seed and planting material and on amendment of certain acts
Act no. 114/1992 Coll. on Nature and Landscape Protection, as amended
Act no. 254/2001 Coll. on Waters and on amendment of certain acts, as amended
Act no. 13/1997 Coll. on Roads, as amended
Act no. 127/2005 Coll. on Electronic Communications and on amendment of certain acts, as amended
Act no. 458/2000 Coll. on Requirements for Business and Public Administration in Energy Industries
Act no. 156/1998 Coll. on Fertilizers, auxiliary soil agents, auxiliary plant preparations and substrata, and on agrochemical testing of agricultural lands
Decree no. 132/2018 Coll. on preparations and other products for plant protection, as amended
Decree no. 96/2018 Coll., on propagating growths and reproduction material of fruit trees and species and its circulation, as amended
MoA Decree no. 474/2000 Coll. laying down requirements for fertilisers
MoA Decree no. 275/1998 Coll. on agrochemical testing of agricultural soils and identification of soil properties of forest
Decree no. 227/2018 Coll., on BPEJ characteristics and the procedure for their record-keeping and updating
Decree no. 189/2013 Coll. on Tree Protection and Felling Permission, as amended
Decree no. 378/2010 Coll., establishing the list of species of cultivated plants
Decree no. 331/2017 Coll., on specification of additional varieties of fruit species with officially recognised descriptions that are considered registered in the National Book of Varieties
Commission Implementing Directive 2014/96/EU of 15 October 2014 on the requirements for the labelling, sealing and packaging of fruit plant propagating material and fruit plants intended for fruit production, falling within the scope of Council Directive 2008/90/EC
Commission Implementing Directive 2014/98/EU of 15 October 2014 implementing Council Directive 2008/90/EC as regards specific requirements for the genus and species of fruit plants referred to in Annex I thereto, specific requirements to be met by suppliers and detailed rules concerning official inspections
Council Directive 2008/90/EC of 29 September 2008 on the marketing of fruit plant propagating material and fruit plants intended for fruit production

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1 Purpose and contents of the standard

The standard “Planting of fruit trees in the agricultural landscape” defines the agrotechnical operations connected with land plot preparation, planting and follow-up management of fruit trees growing outside intensive production orchards up to 10 years of age on a permanent site. Planting of fruit woody plants along roads have to adhere to spatial and safety parameters defined by a separate standard SPPK A02 010 Care of woody plants along public transport infrastructure.

The standard is designed for planting of fruit trees with a harmonic combination of traditional production functions with present-day requirements for performance of non-production functions. In functional planting, none of the functions significantly dominates over the others. For this reasons, some of the parameters are set differently from those in fruit-farming.

The purpose of the standard is to allow the utilisation of the wealth of varieties of fruit trees that differ significantly in their abilities to utilise or tolerate different site conditions. The wealth of diverse varieties of fruit trees growing in the open country has been an integral component of the Czech Republic’s agricultural landscape for centuries. Varieties usable for functional planting are designated for the purposes of the standard as preservation varieties of fruit woody plants, which are further divided based on their importance into the categories priority, specialised, acceptable, exploratory and local varieties.

Establishing a fruit woody plant growth in agricultural landscape always means higher demands on management of the planted trees. The decision to plant or take over cultivation of an existing growth has to be made with the awareness of sufficient technical and financial capacities for annual necessary interventions. The quality and extent of such interventions in defined by standards SPPK C02 003 Planting of fruit trees in the agricultural landscape and SPPK C02 005 Management of functional planting of fruit trees to the minimum necessary extent.

Legal framework

Act no. 114/1992 Coll. on Nature and Landscape Protection, as amended. Depending on the location, the planting may be regulated as an intervention in landscape character or a prominent landscape feature. The Act contains a definition of introduced and invasive species pursuant to Regulation (EU) No 1143/2014 of the European Parliament and of the Council on the prevention and management of the introduction and spread of invasive alien species. The Act defines a ban on damaging and rights and obligations in connection with felling of non-forest trees, and rights and obligations in connection with substitute planting. The Act is based on the principle that felling of woody plants requires a permit from a nature protection authority, unless specified otherwise. The executive regulation is **Decree no. 189/2013 Coll.** on tree protection and felling permission, as amended, which further specifies requirements for protection of trees and shrubs and for felling permission: no permit is needed for trees up to a trunk circumference of 80 cm measured at 130 cm above ground, for canopied growths up to 40 m^2, for fruit woody plants growing in gardens and for woody plants cultivated on plots used as tree plantations.

Act no. 254/2001 Coll. on Waters and on amendment of certain acts, as amended (Section 14, Para. 1 and 2), defines, among other things, planting of trees and shrubs in flood-prone areas in an extent affecting the drainage conditions to a permit from a water management authority.

Act no. 13/1997 Coll. on Roads, as amended (Section 33) defines requirements for tree and shrub planting along roads in terms of view conditions in the road buffer zone on the inner side of a road curve and local 1st or 2nd roads with a radius of 500 m or less and in view triangles of at-grade intersections of said roads. Section 15 stipulates that road vegetation on auxiliary land along roads and other suitable land comprising parts of motorways, highways or local roads must not pose a threat to road use safety or disproportionately complicate road maintenance or management of adjacent land. With a view to an assessment of long-term prospect of the species on the given site, planting should also consider that a tree may present a source of endangerment or disruption of road traffic (risk of either the trunk falling, or falling branches); in such a case, Section 35, Para. 1 imposes the obligation on the owner to remove such a source of endangerment or disruption.

Act no. 127/2005 Coll. on Electronic Communications and on amendment of certain acts, as amended (Section 102) defines protective zones for telecommunications equipment in which permanent vegetation must not be planted without the telecommunications line owner's consent.

Act no. 458/2000 Coll. on Energy, as amended, defines rights of operators of electricity transmission and distribution systems, gas producers and operators of gas transport and distribution systems and gas holders, and holders of licences for thermal energy distribution to control vegetation endangering operation of said systems, including on other owners' property. The Act defines maintenance and planting of woody plants in protective zones of certain power distribution systems facilities (planting is absolutely prohibited in the protective zone of an underground power line and restricted to 3 m of height in the protective zone of an aboveground line), gas facilities (the restriction depends on the woody plant root depth, which must not be deeper than 20 cm above the gas pipeline surface, and specifies a distance of 2 m from the gas pipeline or branch line, or 15 m from the mouth of a gas holder probe; any planting not conforming with the parameters requires the operator's consent) and thermal energy production or distribution facilities (requires the operator's prior written consent with the planting); see Sections 46, 68 and 87 of the Act.

Act no. 326/2004 Coll. on Medical Plant Care and on amendment of certain acts, and its executive **Decree no. 132/2018 Coll.** on Preparations and other products for protection of plants, define the use of preparations and other products for protection of plants.

Act no. 219/2003 Coll. on Marketing of Seed and Planting Material of Cultivated Plants and on amendment of certain acts (Act on the Marketing of Seed and Planting Material), as amended, defines marketing of planting material of cultivated plants, registration of varieties of species of cultivated plants specified in the list of species and varieties of ornamental plants, and integrates applicable EU regulations. The most important ones include **Council Directive 2008/90/EC** of 29 September 2008 on the marketing of fruit plant propagating

material and fruit plants intended for fruit production and its **Commission Implementing Directive 2014/96/EU** of 15 October 2014 and **Commission Implementing Directive 2014/98/EU** of 15 October 2014. It is also related to **Decree no. 378/2010 Coll.**, establishing the list of species of cultivated plants.

Decree no. 96/2018 Coll., on propagating growths and reproduction material of fruit trees and species and its circulation, as amended, further specifying applicable EU regulations.

Act no. 156/1998 Coll. on Fertilizers, as amended, defines requirements for marketing, storage and use of fertilizers, auxiliary soil substances, auxiliary plant products and substrates.

Ministry of Agriculture Decree no. 474/2000 Coll. laying down requirements for fertilisers.

Ministry of Agriculture Decree no. 275/1998 Coll. on agrochemical testing of agricultural soils and identification of soil properties of forest land plots.

Decree no. 227/2018 Coll. on BPEJ characteristics and the procedure for their record-keeping and updating.

2 Classification of fruit woody plants

2.1 Fruit tree

2.1.1 For the purposes of this standard, a fruit tree refers to a woody plant providing humans with edible fruits with an aboveground portion comprising a non-branching trunk at least 1.3 m tall and a branched crown.

2.1.2 The following species are grown as fruit trees:

- common peach (*Persica vulgaris*) – also referred to as peach,
- European cornel (*Cornus mas*)*, trunk form – also referred to as cornel,
- common pear (*Pyrus communis*) – also referred to as pear,
- apple tree (*Malus domestica*) – also referred to as apple,
- service tree (*Sorbus domestica*)* – also referred to as sorb tree,
- sweet rowan tree (*Sorbus aucuparia* var. *dulcis*)* – also referred to as sweet rowan,
- shipova tree (*Sorbopyrus auricularis*) – also referred to as shipova,
- sweet chestnut tree (*Castanea sativa*) – also referred to as chestnut,
- quince tree (*Cydonia oblonga*) – also referred to as quince,
- almond tree (*Amygdalus communis*) – also referred to as almond,
- Tibetan apricot (*Armeniaca vulgaris*) – also referred to as apricot,
- common medlar (*Mespilus germanica*)* – also referred to as medlar,
- black mulberry tree (*Morus nigra*)*, white mulberry tree (*Morus alba*)* – also referred to as mulberry,
- Persian walnut (*Juglans regia*) – also referred to as walnut,
- plum tree (*Prunus domestica*), common plum (*Prunus insititia*) – also referred to as plum,
- sweet cherry (*Cerasus avium*) – also referred to as cherry,
- sour cherry tree (*Cerasus vulgaris*) – also referred to as sour cherry.

* *Not on the list of fruit species and genera pursuant to Decree no. 378/2010 Coll.*

2.2 Fruit shrub

2.2.1 For the purposes of this standard, a fruit shrub refers to a woody plant providing humans with edible fruits with an aboveground portion not forming a trunk but consisting of axes (branches) of identical importance.

2.2.2 The following species are grown as fruit shrubs:

- European cornel (*Cornus mas*)* – also referred to as cornel,
- quince,
- common hazel (*Corylus avellana*) – also referred to as hazel,
- medlar*,
- mulberry*.

* *Not on the list of fruit species and genera pursuant to Decree no. 378/2010 Coll.*

2.3 Grower's classification

2.3.1 **Pome fruit species.** Species in the family *Rosaceae (Malaceae)* producing a pome as its fruit. They include the apple, pear, sweet rowan, sorb, shipova, quince and medlar.

2.3.2 **Stone fruit species.** Species in the family *Rosaceae (Amygdalaceae)* producing a drupe as its fruit. They include the plum, cherry, sour cherry, apricot and peach.

2.3.3 **Nut trees.** Species from which the seed wrapped in a hard shell is consumed. Botanically speaking, they belong to various families. They include the chestnut (family *Fabaceae*), hazel (family *Betulaceae*), almond (family *Rosaceae*) and walnut (family *Juglandaceae*).

2.3.4 **Minority species.** A botanically diverse group of species of little economic importance in fruit-farming and are therefore grown on a small scale. They include the sorb, chestnut, cornel, quince, medlar and mulberry.

2.4 Classification by temperature requirements

2.4.1 For the purposes of this standard, fruit species are divided into ordinary and thermophilic.

2.4.2 **Ordinary fruit species.** Species with low temperature requirements, generally well adapted to the Czech Republic's climate conditions: pear, apple, sweet rowan, shipova, hazel, plum, cherry and sour cherry.

2.4.3 **Thermophilic fruit species.** Species with higher temperature requirements, generally not so well adapted to the Czech Republic's climate conditions: peach, cornel, sorb, chestnut, quince, almond, apricot, medlar, walnut and mulberry.

2.5 General principles for use of fruit species in planting in open landscape

2.5.1 The majority of fruit species are non-indigenous in Czechia, and even indigenous species have been considerably modified in the selection process compared to maternal autochthonous species.

2.5.2 In the course of long-term cultivation, fruit species have become a common component of the landscape character of open agricultural country. Numerous wild endangered and specially protected species use fruit trees and shrubs as part of their ecological niches. Thus, these introduced species may provide quality support to species valuable in terms of conservation on a given site.

3 Planting planning and project preparation

3.1 Site selection

3.1.1 The suitability of the site for the fruit species and variety has to be assessed before the planting. The site refers to the area intended for planting of group or solitary woody plants that is the subject matter of management.

3.1.2 The site selection is driven by the ability of fruit woody plants to regularly bear fruit of at least average quality. Such sites are evaluated as suitable. The site selection is not driven by the ability of the species and variety to survive at the expense of ecological stress. A site is unsuitable if the planted individuals fail to attain normal one-year increments of 20-25 cm, bear fruit of substandard quality, are increasingly infested by diseases and pests, or show damage by abiotic effects. Such effects occur regularly on an unsuitable site even with management performed hereunder and in climate-normal years.

3.1.3 Site suitability is evaluated based on valued soil ecological units (BPEJ; see Decree no. 227/2018 Coll.) or based on presence and condition of older fruit plantings on the site. If there is a discrepancy between suitability based on BPEJ and based on fruit tree condition, the suitability is determined based on the fruit tree condition.

3.1.4 Unsuitable sites based on codes of climate regions, primary soil units, sloping and exposure and soil depth and coarseness under the BPEJ system are listed in Annex 1. Conditionally suitable sites are characterised by changeable conditions that do not permit a clear evaluation of site suitability based on BPEJ alone. Decision on planting is made based on a field survey.

3.1.5 If a land plot does not have a BPEJ defined, the BPEJ of the nearest plot with adequate exposure, microclimate and soil conditions applies. If a land plot has more BPEJ defined, the one that most closely corresponds to the planting site applies.

3.1.6 In case a site cannot be assessed using BPEJ (none available for the plot or a comparable one, or individual BPEJ cannot be localised within an extensive plot with sufficient accuracy), the site shall only be assessed using a combination of altitude and microclimate.

3.1.7 Ordinary fruit species can be planted without limitation up to 350 m above sea level, with the exception of apple varieties susceptible to powdery mildew, which must not be planted at altitudes below 250 m (see Annex 4, Table 1).

3.1.8 Thermophilic species can be planted without limitation up to 250 m above sea level.

3.1.9 Unsuitable sites for planting of thermophilic fruit species are areas above 450 m a.s.l. In areas at 250-450 m a.s.l., planting of thermophilic species has to be justified by microclimate or historically, and only varieties suitable for this altitude zone have to be used.

3.1.10 At altitudes over 450 m, exposed ridges and gorges with permanent air flow are unsuitable. Buds are increasingly damaged by frost and woody plants can be damaged by hoarfrost or rime in these exposed locations. Such microclimate

conditions can be assessed based on the condition of broadleaved woody plants present on the site.

3.1.11 At altitudes of 600-800 m, fruit trees can only be planted if presence of acceptably bearing woody plants of the species on the actual site has been reliably documented.

3.1.12 Areas at more than 800 m a.s.l. are unsuitable for planting of ordinary species. Only fruit-bearing varieties of the rowan tree can be planted in such areas.

3.1.13 The use of specific species and varieties for sites with certain altitudes is specified in Annex 4.

3.1.14 Fruit woody plants must not be planted in areas with permanent presence of groundwater at less than 1.5 m below ground.

3.1.15 Planting is not permitted on sites with solid rock, stony or gravelly bed (> 80% stone) at less than 0.6 m below ground.

3.1.16 Fruit woody plants must not be planted in frost hollows.

3.1.17 An approximate overview of suitability of growing areas for main fruit species can be obtained from the fruit-farming regionalization maps developed by the Agricultural Economy Research Institute in Prague (1957-1960). Planting should take place primarily in suitability zones I and II; planting in zone III is permissible but should use the hardiest varieties suitable for the given conditions.

3.1.18 Planting on unsuitable sites can only be done based on a special justification (for example, due to properly justified species protection of organisms bound to the proposed planting).

3.2 Spatial conditions of sites for planting

Planting of fruit woody plants is governed by provisions of chapter 2.2 Spatial conditions of site for planting of standard SPPK A02 001 Planting of trees.

3.3 Species and variety selection

3.3.1 Functional planting shall use species and mostly varieties historically proven by traditional extensive cultivation in the agricultural landscape of the Czech Republic. Depending on their importance, varieties of most of the fruit species are classified as so-called preservation varieties of fruit woody plants into the following categories (see Annex 4):

- priority
- local
- specialised
- acceptable
- exploratory

3.3.2 **Priority varieties** include varieties with the highest priority for planting throughout the Czech Republic. These are old varieties or regional varieties of domestic origin, alternatively varieties cultivated in the country for more than 200

years. These varieties can be planted on any ecologically adequate site in Czechia. **Regionality is recommended.**

3.3.3 **Local varieties** are locally cultivated varieties originating from what is now the Czech Republic with close ties to the specific area where they were created. That is why only planting in the original areas is promoted. **Regionality is obligatory.** Planting of these varieties outside the specified regional areas is only promoted as gene pool areas under Standard SPPK C 02 006.

3.3.4 **Specialised varieties** are varieties whose use in planting is highly desirable particularly in areas without adequate conditions for priority varieties. This category comprises varieties with properties that present maximum fit for functional planting in open landscape: suitability for taller trunk shapes, adaptability to worse environmental conditions, resistance to adverse abiotic and biotic influences. It also includes varieties with desirable tree or fruit properties that cannot be found in the priority range of varieties. For these reasons, this category need not include old varieties only (see varieties resistant to plum pox virus among plums, apricots, peaches and almonds). **Regionality is recommended.**

3.3.5 **Acceptable varieties** are varieties with the lowest priority for use in planting. These varieties originate from other countries. The tradition of their cultivation in Czechia does not reach back 200 years. Their choice for planting may be justified:

- as an emergency solution to shortage of nursery trees of priority, local or specialised varieties,
- by regional tradition of cultivation of the variety.

Regionality is recommended.

3.3.6 **Exploratory varieties** are varieties insufficiently researched or insufficiently documented so far. Their status, and frequently also their name, is unclear and does not warrant classification into variety types. Their use in planting is possible based on a special justification accepted by the planting contracting authority. Planting of these varieties is primarily promoted as gene pool areas under Standard SPPK C 02 006, so that their properties can be better described. **Regionality is recommended.**

3.3.7 Varieties classified in types of preservation varieties of fruit woody plants are listed in Annex 4. Each variety has to be chosen so as to match the altitude zone. Plums, apricots, peaches and almonds are specified with respect to suitability for areas with presence of the plum pox virus. The regionality is a recommendation only, with the exception of local varieties, for which it is binding.

3.3.8 The use of seedlings and wildings is permitted for the peach, cornel, sorb, chestnut, quince, almond, medlar, mulberry and walnut.

3.3.9 Use of rootstock varieties (without engrafting a fruit variety) is only permitted if explicitly listed in Annex 4.

3.4 Rootstock selection

3.4.1 Fruit-bearing varieties of fruit trees have to be grafted on a vigorously growing rootstock, with the exception of species listed in 3.3.8 and 3.3.9 above.

3.4.2 Generative rootstock has to be used preferably. Vegetative strong-growth rootstock (including in-vitro propagated) can be used additionally.

3.4.3 The rootstock and the variety have to show good affinity and compatibility.

3.4.4 Use of own-root, vegetatively propagated fruit varieties is permitted.

3.4.5 Suitable rootstock for the apple, pear, medlar, quince, sweet rowan, sorb, shipova, cherry, sour cherry, plum, almond and apricot are specified in Annex 2.

4 Planting material

4.1 Requirements for nursery trees

4.1.1 Planting is only possible for nursery trees in the categories of certified reproduction material (C) or conforming reproduction material (CAC), or as material propagated under exemption pursuant to Section 3d) of Act no. 219/2003 Coll. This condition does not apply to woody plants not included in the list of fruit species and varieties under Decree no. 378/2010 Coll.: cornel, sweet rowan, service tree, medlar and mulberry.

4.1.2 Fruit tree planting shall use nursery trees of taller standard shapes with an established crownlet (half-standard trees and full-standard trees) and whips. Only the full-standard shape can be used along public transport infrastructure, or it has to be established after planting. When using a whip, both the planting client and contractor acknowledge that the target shape will be established on site as part of follow-up management.

4.1.3 For the purposes of this standard, the following parameters of tree nursery trees:

- **half-standard tree** (PK): trunk height 1.30–1.69 m,
- **full-standard tree** (VK): trunk height 1.70 m and more
- **whip**: minimum height 1.00 m

Half-standard and full-standard trees must have at least 3 shoots at least 0.3 m long. Nursery trees of differing parameters are considered to be whips.

4.1.4 Nursery trees must meet minimum requirements specified in Annex 4 to Decree no. 96/2018 Coll. on propagation growths and reproduction material of fruit genera and species and its marketing.

4.1.5 Nursery trees grown in free soil may be delivered from nurseries no earlier than on 1 October with the exception of the peach, almond and walnut, which can be delivered no earlier than on 20 October.

4.1.6 Nursery trees grown in free soil must be free of leaves and have mature shoots.

4.1.7 Nursery trees of fruit trees shall have ideally a one-year-old crownlet and three-to-four-year-old root system. Whips of adequate size are permissible (see 4. 1. 3), as are cultivates with crowns no more than two years old and root system no more than five years old. For peach trees, the ideal age is a two-year-old root system and no more than a three-year-old root system is permissible.

4.1.8 The roots have to be fresh, healthy, undamaged and matured. The generative rootstock has to have at least 4 (2 for pears and almonds) further branched main roots at least 0.2 m long with adequate root hairs. The vegetative rootstock has to have a sufficient quantity of bunchy roots at least 0.14 m long, developed on a basal root section of the trunk at least 0.12 m long.

4.1.9 The trunk or shoot (of a whip) has to be straight, smooth, undamaged, with wounds left after removed branching and pins healed around the edges. Branching on the trunks of peaches and almonds has to be removed in the herbaceous state.

4.1.10 Nursery trees at least two years old shall be used for shrub planting. The cultivates have to have at least 3 shoots at least 0.5 m long.

4.1.11 Nursery trees of fruit woody plants with parameters different from those specified in 4.1.2 – 4.1.11 are not standard fruit nursery trees hereunder. They can only be used with the planting contracting authority's written consent.

4.1.12 The planting contractor has to allow the planting client to make proper physical and administrative inspection of the genuineness of species and varieties of both fruit grafts and rootstock of the cultivates before signing the execution contract. It shall arrange such a check with its subcontractors as well.

4.2 Requirements for other planting material

4.2.1 If nursery trees pursuant to 4.1.1 – 4.1.10 cannot be used for planting of preservation varieties, cultivates of rootstock or trunk-forming varieties of parameters identical to those specified in 4.1.2 – 4.1.10 can be planted.

4.2.2 In such cases, preservation varieties shall be grafted directly on the site at the nearest physiologically appropriate date chosen with respect to the overall condition of the tree being grafted.

4.2.3 Propagating material of preservation varieties used for grafting on site has to come from a source that the planting contracting authority identifies or recognises are credible.

4.2.4 In the case of scarcity of planting material of requested varieties (local ones have priority) or its limited availability in the climate region, other shapes grown on suitable rootstock as per Annex 2 can be used in properly justified cases. In the case of lower shapes (quarter standard, dwarf tree, thin spindle), the cultivate is modified into a whip as soon as physiologically possible after the planting. Standard SPPK C 02 005 specifies such periods for different species. After the modification, the cultivate has to stand at least 1 m tall. A crownlet shall be established at the desired height on the site in the following years.

4.2.5 It is desirable to use typically bare-rooted material in open country, that is, outside built-up or developable areas.

5 Planting of fruit woody plants

Planting of fruit trees is governed by SPPK A02 001 – Planting of trees. Planting of fruit shrubs is governed by SPPK A02 003 – Planting and pruning of shrubs and climbing plants. This standard only discusses specific aspects of planting of fruit woody plants in agricultural landscape.

5.1 Plot adjustments

5.1.1 In the case of presence of undesirable herbaceous vegetation (persistent weeds – thistle, couch grass, burdock, mugwort, bindweed, etc.), it has to be regulated by blanket mowing to a height up to 0.1 m.

5.1.2 In the case of presence of undesirable woody plants, they have to be removed before the start of planting. Woody plant removal has to be done in accordance with Decree no. 189/2013 Coll. on Protection of woody plants and permission of their cutting.

5.1.3 When removing existing woody plants, individuals of both fruit-bearing and other woody plants may be left in order to boost the non-productive functions of the planting. However, their preservation has to be done so that they cannot endanger the target plants with root competition, shading or transmission of pathogens.

5.1.4 In the case of presence of regulated pathogenic organisms (formerly quarantine organisms) infecting fruit species planned for the planting, all the infected woody plants on the plot have to be removed.

5.1.5 If assuming maintenance of the herbaceous layer by machine mowing, the ground has to be levelled and stones removed before the planting.

5.1.6 If the implementation conditions allow, soil in the area can be processed following procedures for establishing extensive orchards.

5.1.7 If assuming reserve fertilisation, only organic fertilisers and mineral fertilisers of natural origin with slow nutrient release are permitted. The fertilisers have to comply with ČSN EN 12944-1, 12944-2 and 12944-3. Fertiliser doses have to conform to ČSN 83 9051.

5.1.8 The contractor shall delineate and identity the planting sites in a suitable manner before the planting itself. The contractor may only start planting after the client has granted its explicit approval of the locations of trees.

5.2 Distribution of individuals on site

5.2.1 Distances between trees and shrubs are governed by the fruit species and planting type. Group planting and solitary planting are distinguished in the area of functional planting.

5.2.2 Group planting is divided into linear planting (single-file and double-file) and orchards (more than double-file). The minimum and maximum distances between individuals are specified in Annex 3 for each planting type and each fruit species.

Sites for group planting include the adjacent peripheral handling areas, which must not extend beyond the maximum distance between individuals in the group planting at the beginnings and ends of rows and beside rows.

5.2.3 Solitary planting refers to planting in which individuals are farther apart than the permissible maximum distance for the group planting type. The site of a solitary tree is defined by a circle around the individual at its centre, with a diameter equalling the minimum diameter for the species in single-file and double file planting (see Annex 3).

5.2.4 In mixed planting composed of multiple species, the minimum and maximum distances are determined by the more space-demanding species.

5.2.5 A north-south row orientation is preferred on flat land or gentle slopes. Rows are oriented along contour lines on sloping plots.

5.3 Planting pits

5.3.1 The planting pit is prepared with dimensions corresponding to the development and dimensions of the woody plant root system. The minimum permissible pit diameter or edge length for fruit woody plants is 0.7 m; depth 0.4 m.

5.3.2 The planting pit has to allow planting to a correct depth without the risk of exposure of the root collar after the earth sinks. At the same time, it has to allow formation of a watering bowl with a minimum capacity of 10 L of water on medium to heavy soils and 20 L on lighter soils.

5.4 Planting season

5.4.1 Bare-rooted cultivates of fruit species (with the exception of peach, almond, apricot and walnut trees; see 5.4.3) are ideally planted in the autumn. The season starts with dates determined for dispatch from nurseries (see 4.1.5), ideally in the first decade of November, at the latest before the surface soil layers freeze.

5.4.2 Spring planting is possible after the soil has thawed, at air temperatures above 0°C, by the sprouting time at the latest, as long as there is no risk of damage to sprouting buds in transport.

5.4.3 The peach, almond and walnut are ideally planted in the spring, from ground to ground. Lifting young plants of these species from the ground is ideal after spontaneous shedding of leaves.

5.4.4 Nursery trees of shrubs in cultivation containers can be planted throughout the growing season, with the exception of sunny weather with maximum daytime air temperatures above 25°C.

5.5 Planting procedure

5.5.1 Nursery trees of fruit trees on generative rootstock have to be planted at the same depth at which it grew in the nursery. Nursery trees of fruit trees on vegetative

rootstock can be planted no more than 0.1 m deeper, always keeping the grafting point at least 0.05 m above ground.

5.5.2 Nursery trees of own-root shrubs have to be planted 0.1–0.15 deeper.

5.5.3 While planting, particularly in spring, the woody plants have to be watered properly.

5.5.4 During spring planting or in the spring after autumn planting, form a watering bowl around the woody plant with a diameter at least identical to the diameter (edge length) of the planting pit. The watering bowl capacity has to be at least 10 L on medium to heavy soils and 20 L on light soils. (see Fig. 1 and 2 in Annex 5). When using mulch to suppress weeds, the size of the watering bowl has to be increased adequately to retain the capacity.

5.5.5 The watering bowl area shall be free of vegetation.

5.6 Use of site-improving substrates and substances

5.6.1 Correct choice of site, rootstock and variety should achieve a state where plantings are established only in suitable conditions. Use of site-improving substrates and substances is not a normal procedure.

5.6.2 Only where plantings are established under worse conditions for special reasons, applicable provisions of chapter 5.7 of Standard SPPK A02 001: Planting of trees apply.

5.7 Woody plant anchoring and protection from damage by farm animals and wild game

5.7.1 Due to the specific properties of the root system and great attractiveness of fruit woody plants for wild herbivores and farm animals, anchoring and protection from damage have to be provided for at least 10 years after planting.

5.7.2 The forms and methods shall be chosen with respect to the site conditions, particularly presence of farm animals (cattle, sheep), deer, roe deer and hare populations. Grazing of horses and goats in direct contact with the planting protection structure is undesirable. A basic categorization of anchoring is detailed in 5.7.8 – 5.7.10.

5.7.3 When using wooden anchoring stakes, bark must be removed. When using stakes made from resilient hardwood (oak, black locust), the pointing has to be at the heavier end; the thinner end must not be less than 0.07 m in diameter, and the heartwood must comprise at least 65% of the diameter at the thicker end of the stake. The wood must not be infested with wood-decaying fungi.

5.7.4 Protection structures have to be braced horizontally at two levels. Wind bracing has to be provided on at least two walls. These wooden components are made of roof slats of at least 0.03 x 0.05 m or other wooden material of adequate properties.

5.7.5 The stakes have to be embedded in ground undisrupted by the planting at least 0.2 m deep. The embedding depth in undisrupted earth depends on the structure height, plant size and site soil properties. At any rate, they have to ensure long-

term stability as per 5.7.7.

5.7.6 Where anchoring and protective elements cannot be driven deep enough, they have to be properly stabilized, for example with more fastening and anchoring elements or incline of the stakes. The retaining structure has to have long-term static stability.

5.7.7 Planted trees have to be properly tied to the anchoring elements with knots that do not damage the tree (abrasion, bark overgrowing). When anchoring to 1 stake, the tree is tied as much as to straighten the trunk, typically in one, two or three places with figure-8 knots, so that the knot crossing separates the trunk from the stake. When anchoring to multiple points, the tree is tied to at least two of the stakes. The knot has to prevent tree movement and trunk swaying throughout the anchor lifetime, and shall be made at the highest point of the new plant possible with respect to its height and the graft height.

5.7.8 **Planting with anchoring to one or two anchoring points.** Anchoring is only possible with trees and only if the presence of wild herbivores and farm animals (with the exception of hares) is ruled out. When anchoring to one point, the stake is driven into the planting bottom pit, 0.5 m deep, slightly off-centre southwards, thus acting as trunk shading. The minimum stake diameter is 0.08 m. The top of the stake should be at least 0.1 m below the lowest branch of the crownlet. When anchoring to two points, the stakes can be driven into natural ground outside the planting pit. Installation of protective sleeves around the trunk to a height of at least 1.3 m is mandatory. The sleeves have to be placed so they cannot be lifted by game when rubbing antlers. If using wood other than oak or black locust with sufficient heartwood, expect gradual replacement of stakes starting in the fourth year after planting.

5.7.9 **Planting with anchoring to three anchoring points and outer protective casing.** This is used for planting of shrubs and trees in case they are exposed to pressure by wild game or grazing farm animals. An inner protective sleeve is installed on the trunk. An outer protective casing is installed on a retaining structure comprising at least three stakes. The distance of the protective casing from the young plant has to be at least 0.35 m. The stake height is chosen with a view to game presence; for example, against deer, we recommend stakes approx. 2 m tall after anchoring in the ground. The minimum stake diameter is 0.08 m. The optimum stake spacing is 1.2 m or more. The outer casing (e.g., knit or welded meshing) is installed as the final layer on the completed structure. The casing shall protect the young tree up to the first level of primary branches. The outer casing can also be designed as self-supporting without stake anchoring (e.g., welded mesh segments, wooden segments). Regardless of the technical design, it has to meet the general requirements specified in 5.7.

5.7.10 **Planting with anchoring to three or four anchoring points and reinforced outer protective casing.** This is used for planting in case it is exposed to severe pressure by deer or wild boars or grazing of large farm animals. The overall design is analogous to category 3 with the following differences. The anchoring is by stakes (split timbers) with a diameter of at least 0.1 m and length of 2.5 m. The stake spacing is at least 1.5 m. The outer casing is additionally reinforced with wooden bracing (slats, planks, boards). Against horses, additional protection is provided by an electric fence for safe removal of horses from the planting.

5.7.11 The protection against damage has to be designed so as to allow pruning, trunk treatment, watering bowl maintenance and watering without having to remove the tree protection and support. If these rules are adhered to, the above measures can be complemented with paint coat using protective repellent against browsing, suitable installation of electric fencing, etc.

5.7.12 Protection with repellent products can be performed using currently permitted products or solutions made from organic materials. Adherence to public health and safety regulations under legislation in force and periodic restoration of the coating has to be ensured.

5.7.13 Protection from ground rodents can be achieved by wrapping roots and the trunk base with iron meshing made of thin wire without corrosion protection (e.g., “rabbit wire”). The protective wrapping must not be toxic to the tree and has to decompose slowly in the soil. While wrapping the young plant, make sure the roots or trunk are not strangled. Mechanical protection from rodents can be complemented with pain coat using repellent products at the trunk base, adhering to the same rules as for protection from farm animals and wild game.

6 After-planting management

6.1 Pruning of fruit woody plants

6.1.1 Pruning of fruit woody plants is governed by provisions of SPPK A02 002 – Pruning of trees. Specific aspects of fruit woody plants are described in SPPK C02 005 – Management of functional plantings of fruit woody plants.

6.1.2 Pruning of fruit woody plants is an integral component of functional planting for the first 10 years after planting. The following pruning styles shall or may be employed as part of after-planting management of fruit woody plants:

- Pruning to crown (O-RK)
- Juvenile pruning (O-RV)
- Thinning pruning (O-RP)
- Reparatory pruning (O-RO)

The above pruning techniques are described in SPPK C02 005 – Management of functional plantings of fruit woody plants.

6.2 Herbaceous layer management

6.2.1 The herbaceous layer is an integral component of functional plantings of fruit woody plants performing their non-productive functions.

6.2.2 Appropriate species composition and height structure also assists woody plant nutrition and regulation of undesirable organisms.

6.2.3 A herbaceous layer of the desired properties is formed either by deliberate establishment or by directing spontaneous development. Both methods are regarded as equal.

6.2.4 Blanket mechanical soil preparation before or after the planting establishes a herb-grass vegetation of a suitable species composition for the site.

6.2.5 Interspecies or intergenus grass hybrids must not be used, even as part of a mixture. The use of introduced plant species in a seed mixture is only possible for annual species, which have a justification as part of a cover crop mixture.

6.2.6 Each grass mixture shall be expanded with suitable nectar-producing species in the *Fabaceae* (leguminous) family providing nitrogen nutrition, with at least a 1% share.

6.2.7 The optimum technique for directing spontaneous development is grazing of sheep or cattle up to a weight of 500 kg per head at a rate adequate to the site supporting capacity.

6.2.8 If farm animal grazing is impossible and the pressure of undesirable vegetation is strong, rehabilitation mowing with removal of biomass at least 3 times per growing season has to be provided. A shift to maintenance mowing is possible once meadow vegetation is established, depending on the site conditions.

6.2.9 Maintenance mowing is done 1-2 times a year, depending on the site moisture

conditions, with biomass removal from the site. Part of the biomass can be used as mulch for the young plants, unless there is a risk of damage by rodents. If the pressure of ruderal and weed species is low, mowing can be done in strips or at a phase shift of approx. 1 month.

6.3 Management of attendant woody plants

6.3.1 Attendant woody plants are a possible component of functional plantings of fruit woody plants. The primary purpose of their presence is to support non-productive functions of the planting and support to regulation of undesirable organisms.

6.3.2 Attendant woody plants may be left in fruit plantings during the site preparation as part of original vegetation, or they can be planted newly.

6.3.3 The selection of attendant woody plants has to consider the fruit species and the risk of common pathogens and pests. In cases of increased risk of regulated pathogenic organisms in particular, retention or planting of common hosts is undesirable.

6.3.4 Plantings with a **predominance of pome fruit species** should not include host species of the fire blight of apples (*Erwinia amylovora*), such as hawthorn, and hosts of the insect order *Yponomeutidae* (ermine moths), such as the European spindle (*Euonymus europeus*).

6.3.5 Plantings with a **predominance of stone fruit species** should not include the common blackthorn (*Prunus spinosa*), myrobalan plum (*P. cerasifera*) and wild species of *Prunus domestica* and *Prunus insititia*, which are the hosts of the jumping plant louse *Cacopsylla pruni*, the vector of the European '*Candidatus Phytoplasma prunorum*' (ESFY), and some species of aphids, vectors of the plum pox potyvirus (PPV).

6.3.6 However, distribution of attendant woody plants has to be done so that they cannot endanger the target plants with root competition, shading or transmission of pathogens.

6.4 Inspection and removal of anchoring and protective elements

6.4.1 Anchoring and protective elements shall be inspected at least once every six months and defects identified are eliminated immediately.

6.4.2 Presence of anchoring connected to protective elements at fruit trees has to be ensured for a period of 10 years. Non-functioning parts have to be replaced with new ones immediately.

6.5 Watering, nutrition and fertilisation of fruit woody plants

6.5.1 Watering of fruit woody plants is governed by SPPK A02 001 – Planting of trees and SPPK A02 003 – Planting and pruning of shrubs and climbing plants. Only issues specific for fruit woody plants are discussed below.

6.5.2 Watering is unconditionally necessary immediately after the planting of bare-

rooted nursery trees in the spring. In the autumn, it is carried out depending on the moisture at the time of planting.

6.5.3 The area around each woody plant corresponding to the diameter of the water bowl shall not be sown with grass for at least three years after the planting, to prevent competition over water and nutrients. The area shall be maintained by shallow tillage (no deeper than 0.05 m), mulching or a combination of both methods.

6.5.4 Mulching can only be done if the risk of damage to the root system of fruit woody plants by rodents is excluded.

6.5.5 Mulching is done exclusively using organic material, which simultaneously contributes to nutrition of the fruit woody plants. Suitable materials include compost or wilted mown biomass from the herb-grass vegetation in the orchard. Wood chips or bark can be used as a last resort and is not worked into the soil.

6.5.6 The mulch must never be in direct contact with the trunk of the fruit tree.

6.5.7 On sites with a presence or rodents, the soils then has to be hoed at least twice a year.

6.5.8 In the case of insufficient increments of the fruit woody plants (less than 0.25 m per growing season) in the first three years after the planting, the circular area of the watering bowl diameter has to be fertilised each autumn or spring with at least 0.05 m of compost or other organic fertiliser. For up to 5 years after planting, outside areas where other legal regulations preclude it, synthetic nitrogen fertilizers (calcium nitrate, potassium nitrate or ammonium nitrate with limestone) can be applied exclusively in the watering bowl area once a year (before sprouting).

6.6 Protection of fruit woody plants from disease, pests and weather effects

6.6.1 It is necessary to monitor sucking pests (aphids, jumping plant lice, scales, mites, etc.) and pathogens (e.g., powdery mildew, fruit blight, Pseudomonas, canker necrosis, etc.), which severely disrupt healthy plant development.

6.6.2 Any exceedance of the threshold of pest or pathogen harmfulness has to be regulated.

6.6.3 In the case of functional plantings of woody plants, the threshold of harmfulness is their serious damage, endangerment of the physical existence of the plant or of its grafted part.

6.6.4 When regulating undesirable organisms, principles of integrated plant protection have to be observed.

6.6.5 Mechanical protection methods are preferred: cutting off infected parts, collection, trapping, shaking off pests, etc.

6.6.6 If mechanical methods have insufficient effect, woody plants can be treated with registered plant protection preparations or other products (auxiliary plant protection products and biological agents pursuant to Act no. 326/2004 Coll.); non-chemical methods are preferred, particularly biological protection.

6.6.7 When choosing plant protection preparations, preference is given to those with the least adverse impacts on the environment and non-target organisms; however, they shall always ensure healthy plant growth.

6.6.8 In the event of identified presence of a regulated harmful organism, it is advisable to consult the situation and proceed in cooperation with a national medical plant care (Central Institute for Supervising and Testing in Agriculture).

6.7 Treatment of fruit tree trunks

6.7.1 It is advisable to protect the trunk, of full-standard trees in particular, from frost damage in winter and early spring on eastern and southern slopes. The protection is provided using a suitable protector or paint coat (e.g., whitewash). The paint coats have to be repeated annually.

6.7.2 In the case of anchoring to a single stake, the trunk base has to be protected from damage by machinery using mulch, wooden or stone elements.

6.7.3 Leader shoots from undergrowing rootstock have to be removed immediately – by breaking off or cutting off to branch ring, frequently necessitating temporary exposure of the root collar.

6.7.4 Trunks shall be maintained without shoots, with the exception of the first year after planting of whips, where shoots are nipped off continuously in order to strengthen the trunk; see Pruning to crown (O-RK) in SPPK C02 005 – Management of functional plantings of fruit woody plants.

6.7.5 All shoots from the trunk have to be removed by the end of August at the latest.

Annex 1 Unsuitable and conditionally suitable sites for fruit species based on BPEJ

Unsuitable sites

Climate region	Primary soil unit code	Gradient and exposure code	Soil depth and coarseness code
9	04, 21, 31, 35, 36, 43, 44, 46, 47, 49, 51, 52, 53, 54, 55, 59, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 74, 75, 76, 77, 78.	8.9	

Conditionally suitable sites

Climate region	Primary soil unit code	Gradient and exposure code	Soil depth and coarseness code
6, 7, 8,[1]	34, 37, 38, 39, 40, 48, 50, 58, 73,[2]		5, 6, 7, 8, 9 [3]

[1] *In climate regions with codes 6, 7 and 8, pay increased attention to site selection in terms of microclimate.*

[2] *For the main soil units under numeric codes* 34, 37, 38, 39, 40, 50, 58, 73, *planting conditions are highly variable. A single plot may include suitable places for planting as well as totally unsuitable ones. If the root system becomes long-term waterlogged or if the soil profile is too shallow, the tree has to be planted in a more suitable part of the site.*

[3] *These sites feature shallow or very coarse (stony) soils. Planting can only be done in areas with increased accumulation of the loamy fraction.*

Annex 2 Suitable rootstock for fruit trees

Species	generative rootstock	vegetative rootstock
apple	apple seedling (e.g., of the varieties Jadernička moravská, Antonovka) apple wilding,	A2, M25, MM111, M1, M11
pear, shipova	pear variety seedling (e.g., Kirchensaller Mostbirne, Hardyho, Solnohradka,) pear wilding, *Pyrus calleryana, Pyrus caucasica,*	Fox 11 OHF 333
cherries and sour cherries	wild cherry group (e.g., Alkavo, P-TU 1, P-TU 2, forestry wild cherry selections) mahaleb cherry group – for drier soils,	MF 12/1 (F12/1) tall-growing mahaleb cherry selection MAXMA
plums	myrobalan group – for drier soils: non-selected myrobalan, Vanovický, selected myrobalan plum tree and common plum group – only for moister soils: e.g., Saint Julien, Durancie, Wangenheimova, Zelená renklóda, Špendlík žlutý	myrobalan group, e.g., Myr-29C, MY-KL-A plum tree and common plum group: Adesoto (Puebla de soto) Brompton
apricots	myrobalan group – see plums; apricot seedling group (South Moravia only), e.g., M-VA-1, M-VA-2, M-VA-3, M-HL-1, M-HL-2	Torinel; for other rootstock, see plums and peaches
peaches, almonds	peaches: seedling (e.g., BSB – 1, Siewka Rakoniewiecka, Mandžurska), Lesiberian, Montclar, Higama; peach-almond group: e.g., BM-VA-1, BM-VA-2; almond seedling group: e.g., MN-VA-1, MN-VA-2.	interspecies hybrid group, e.g., GF 677
medlar	hawthorn seedling, medlar seedling, quince seedling (warm areas), pear seedling	quince MA, BA 29, S1 (warm areas)
quince	quince seedling, pear seedling, pear wilding	quince MA, BA 29, S1
sweet rowan	European rowan or sweet rowan seedling	-
sorb	sorb seedling	-

Annex 3 Minimum and maximum distances between woody plants in group fruit plantings (m)

Species	**Group planting type**	
	avenues (single-file and double-file planting)	**orchards (more than double-file)**
walnut, sorb, shipova, chestnut	10 –16	12 – 20
apple, pear, sour cherry, apricot, cherry, white mulberry	8 – 12	9 – 16
plum, almond, sweet rowan, black mulberry	6 – 10	8 – 12
quince, peach, medlar, hazel, cornel	4 –8	6 – 10

Annex 4: Preservation varieties of fruit woody plants

Table 1: Apple varieties

Current variety name	synonym and other remarks	variety	altitude [m]	regionality recommended	country of origin
Anýzové české		priority	up to 450	Ústí nad Labem Region	Czechia
Bláhovo oranžové	syn. Bláhova oranžová reneta	priority	from 350 to 450	Central Bohemian Region	Czechia
Božena Němcová		priority	up to 450	Hradec Králové Region	Czechia
Česká pochoutka	syn. Česká koruna	priority	up to 450		Czechia
České růžové		priority	up to 600	Central Bohemian Region	Czechia
Daňkovo		priority	up to 600	Hradec Králové Region	Czechia
Granát tříblický	syn. Granát třebívlický	priority	up to 350	Ústí nad Labem Region	Czechia
Hájkova muškátová reneta	syn. Hájkova reneta	priority	up to 600	Pardubice, Hradec Králové Region	Czechia
Hetlina		priority	up to 800	Plzeň Region	Czechia?
Chodské		priority	up to 600	Plzeň Region	Czechia
Ideál		priority	up to 450	Hradec Králové Region	Czechia
Jadernička moravská	syn. Jadernička valašská	priority	up to 600		Czechia
Jaroslav Němec		priority	up to 450	Hradec Králové Region	Czechia
Košíkové	syn. Panské	priority	up to 600	Pardubice, Hradec Králové Region	Czechia
Libernáč sloupenský		priority	up to 450	Hradec Králové Region	Czechia
Malinové holovouské		priority	up to 600	Pardubice, Hradec Králové Region	Czechia
Malinové sloupenské		priority	up to 450	Hradec Králové Region	Czechia
Míšeň jaroměřská		priority	up to 450	Hradec Králové Region	Czechia
Míšeňské	syn. Míšenské	priority	up to 600		Czechia?
Oberdieckovo		priority	up to 450	Hradec Králové Region	Czechia
Panenské české	syn. Panenské	priority	up to 600		Czechia
Punčové		priority	up to 450	Karlovy Vary, Ústí nad Labem Region	Czechia
Studničné	syn. Farliové	priority	up to 600	Pardubice, Hradec Králové Region	Czechia
Sudetská reneta		priority	from 350 to 600		Czechia
Syreček úřetický		priority	up to 450	Pardubice Region	Czechia
Vejlímek červený	syn. Štětínské červené, syn. Vejlímek chocholatý, syn. Vejlímek	priority	up to 600		Czechia?
Vlkovo		priority	up to 600	Vysočina, South Moravian Region	Czechia
Vytoužené		priority	up to 600	Hradec Králové Region	Czechia
Zapovězené		priority	up to 450	Hradec Králové, Pardubice Region	Czechia
Albrechtovo	syn. Princ Albrecht	specialised	up to 600		Germany
Akerö		specialised	up to 800		Sweden
Antonovka		specialised	up to 600		Russia
Astrachán bílý		specialised	up to 800		Baltic States
Astrachán červený		specialised	up to 600		Russia – Volga Valley
Batul		specialised	up to 600		Romania
Black Ben		specialised	up to 800		USA
Boikovo	syn. Bojkovo	specialised	from 350 to 600		Germany

Boikovo obrovské		specialised	from 350 to 600		Germany
Citrónové zimní		specialised	up to 600		France?
Coulonova reneta		specialised	up to 600		Belgium
Croncelské	syn. Kroncelské	specialised	from 350 to 600		France
Červené tvrdé		specialised	up to 600		Netherlands?
Wealthy Double Red	Double red wealthy	specialised	up to 600		USA
Elise Rathke		specialised	up to 600		Germany?
Gdánský hranáč		specialised	up to 600		Germany?
Grahamovo		specialised	up to 600		England
Grávštýnské	syn. Gravenštýnské	specialised	from 350 to 600		Denmark
Gravštýnské červené		specialised	from 350 to 600		Germany
Gustavovo trvanlivé		specialised	up to 600		Switzerland
Hedvábné bílé zimní		specialised	up to 600		Germany
Hedvábné pozděkvěté	**syn.** Hedvábné pozdě kvetoucí	specialised	up to 600		Germany
Hvězdnatá reneta		specialised	up to 600		Germany
Charlamowski	syn. Borovinka, Šarlamovské	specialised	up to 600		Russia
Jeptiška	syn. Železné	specialised	up to 600		Germany
Kardinál žíhaný	syn. Šálové	specialised	up to 800		Germany?
Lebelovo	syn. Jakob Lebel	specialised	up to 600		France
Lecar		specialised	up to 600	South Moravian Region	unknown
Lohák	syn. Grosseroberösterreichischer Brünnerlinger, syn. Brünerling	specialised	up to 600	Hradec Králové Region	Austria
Malinové podzimní	syn. Malinové letní	specialised	up to 450		Germany
Malinové hornokrajské		specialised	up to 600		Netherlands
Omanové		specialised	up to 450		Germany?
Rederova reneta		specialised	from 350 to 600		Germany
Řehtáč soudkovitý		specialised	up to 600		Germany
Smiřické vzácné	Scottish variety Galloway Pippinapple	specialised	from 350 to 600	Hradec Králové Region	Scotland
Strýmka	syn. Strymka	specialised	up to 600		Germany
Vilémovo		specialised	up to 600		Germany
Watervlietské mramorované		specialised	up to 600		Belgium
Wealthy		specialised	up to 600		USA – Minnesota
Admiral		acceptable	up to 600		Czechia
Angold		acceptable	up to 600		Czechia
Antopa		acceptable	up to 600		Czechia
Auralia	Tumanga	acceptable	from 350 to 600		Germany
Aurora		acceptable	up to 600	Moravian-Silesian Region	USA
Baumannova reneta		acceptable	up to 450		Belgium
Berlepschova reneta		acceptable	up to 450		Germany
Bernské růžové		acceptable	up to 600		Switzerland
Biesterfeldská reneta		acceptable	up to 450		Germany
Blenheimská reneta		acceptable	up to 450		England
Boskoopské	syn. Boskopské	acceptable	up to 450		Netherlands
Boskoopské červené		acceptable	up to 450		Germany

Car Alexander		acceptable	up to 600		Russia
Coxova reneta		acceptable	up to 450		England
Červený válec		acceptable	up to 450		Germany
Cikánka		acceptable	up to 600		Estonia
Čistecké lahůdkové	syn. Princezna Louisa kanadská	acceptable	up to 450		Canada
Doberánská reneta		acceptable	up to 450		Germany
Gascoyneho šarlatové	syn. Gascoigneho šarlatové	acceptable	up to 450		England
Golden Delicious		acceptable	up to 350		USA
Hammersteinovo	syn. Minister Hammerstein	acceptable	from 350 to 450		Germany
Harbertova reneta		acceptable	up to 600		Germany
Hawthorndenské červené		acceptable	up to 600		Scotland
Hawthorndenské	syn. Hlohovské	acceptable	up to 600		Scotland
Hedvábné červené letní	syn. Broskvové letní	acceptable	up to 600		France
Herrnhutské	syn. Ochranovské	acceptable	up to 600		Germany
Hibernal		acceptable	up to 800		USA
James Grieve	_	acceptable	up to 600		Scotland
Jonathan		acceptable	from 350 to 600		USA
Kalvil červený podzimní	syn. Jablko malinové, Malinové červené podzimní	acceptable	up to 600		France
Kanadská reneta	syn. Kmínová reneta	acceptable	up to 450		France
Karmelitská reneta	syn. Kropená reneta	acceptable	up to 450		France
Kasselská reneta	syn. Kasselská reneta velká	acceptable	up to 600		Netherlands
Kids orange	syn. Kidd's Orange Red	acceptable	up to 450		New Zealand
Kirchwaldenské	syn. Kirchwaldské	acceptable	up to 600		Germany
Knížecí zelené		acceptable	up to 450		Balkans?
Korunní princ Rudolf	syn. Kronprinz Rudolf	acceptable	up to 600		Austria
Kožená reneta podzimní		acceptable	up to 600		France?
Kožená reneta zimní		acceptable	up to 450		France
Královnino		acceptable	up to 600		England
Krasokvět žlutý	syn. Krasokvět americký	acceptable	up to 450		USA
Krátkostopka královská	syn. Krátkostopké královské	acceptable	up to 450		Netherlands?
Landsberská reneta	syn. Reneta lanšperská	acceptable	from 350 to 600		Germany
Lesklá reneta		acceptable	up to 600		Germany
Libernáč vinický	syn. Libernáč Winitzky	acceptable	up to 450		unknown
Libernáč zimní		acceptable	up to 450		Germany
Limburské		acceptable	up to 450		Netherlands
Londýnské	syn. Londýnský jadernáč	acceptable	up to 450		England
Lunovské		acceptable	up to 600		Germany
Lužická muškátová reneta	syn. Hornolužická muškátová reneta	acceptable	up to 450	Liberec Region	unknown
Malvazinka		acceptable	up to 600		France
Matčino	syn. Nonnetit	acceptable	up to 450		USA
Mazánkův zázrak	syn. Alžbětino, Annie Elizabeth	acceptable	up to 600		England

Meklemburské královské	Meklenburger Königsapfel	acceptable	up to 600		Germany
Melodie		acceptable	from 350 to 600		Czechia
Muškátová reneta		acceptable	up to 600		France
Nathusiovo holubí		acceptable	up to 450	Ústí nad Labem Region	Germany
Ontario		acceptable	up to 450		Canada
Oranienské		acceptable	up to 600		Baltic States
Parkerovo	syn. Jadernáč Parkerův, Jádrnáč Parkerův	acceptable	up to 450		England
Parména Strauwaldova		acceptable	up to 600		Upper Silesia
Parména zlatá	syn. Parména zlatá zimní	acceptable	up to 450		England?
Peasgoodovo		acceptable	up to 600		England
Pogáč červený		acceptable	up to 450		Hungary
Průsvitné letní	syn. Skleněné žluté	acceptable	up to 600		Baltic States
Reluga		acceptable	up to 450		Czechia
Ribstonské	syn. Jadernáč ribstonský	acceptable	from 350 to 450		England
Richardovo žluté		acceptable	up to 450		Germany
Schmidtbergerovo	syn. Schmitzbergova reneta	acceptable	up to 600		Austria
Signe Tillisch		acceptable	up to 600		Denmark
Sikulské		acceptable	up to 450		Hungary
Skořicové letní		acceptable	up to 450		Netherlands
Solivarské	syn. Solnohradské, Solivarské ušlechtilé	acceptable	up to 600		Slovakia
Soudek zlatý		acceptable	up to 450		Baltic States
Spartan		acceptable	up to 350		USA
Ušlechtilé žluté		acceptable	up to 600		England
Virginské růžové		acceptable	up to 600		unknown
Wesenerovo		acceptable	up to 450		Austria
Zvonkové		acceptable	up to 450		unknown
Arcikníže Antonín		exploratory			Austria?
Bejkovické		exploratory		South Moravian, Zlín Region	Czechia
Běličné		exploratory	up to 450	Pardubice Region	Czechia
Bláhovo libovické		exploratory	up to 600		Czechia
Bláhův poklad		exploratory	from 350 to 600		Czechia
Červený hranáč		exploratory	up to 600	Moravian-Silesian Region	unknown
Czechoslovakia		exploratory			Czechia
Dr. Karel Kramář	syn. Kramářovo	exploratory	up to 450	Prague	Czechia
Fialkové		exploratory			Czechia
Hladíkovo přeúrodné		exploratory	up to 600	Pardubice Region	Czechia
Hlohovské letní		exploratory			Czechia
Honťanské	syn. Entzovo rozmarýnové	exploratory	up to 600		Slovakia
Chebský zelenáč		exploratory			unknown
Jan Říha		exploratory			Czechia
Kouřimský kropenáč		exploratory			Czechia
Kočí pala	multiple types exist	exploratory		Moravian-Silesian Region	Czechia
Kučerovo	syn. Kutscherovo. syn. Kučerův kalvil	exploratory	up to 450	Ústí nad Labem Region	Czechia
Kyjovský semenáč		exploratory			Czechia
Libovická oranžová		exploratory			Czechia

reneta					
Libovické muškátové		exploratory			Czechia
Lužecký hranáč		exploratory	up to 450	Hradec Králové Region	Czechia
Malinové Vrchlického		exploratory			Czechia
Marie		exploratory			Czechia
Mikulášovo		exploratory	up to 450		Czechia
Otcovo		exploratory	up to 600		Czechia
Ovčí hubičky hlučínské p.n.		exploratory	up to 600	Moravian-Silesian Region	unknown
Palouče		exploratory	up to 600	Hradec Králové, Pardubice Region	Czechia
Pašíkovo jablko		exploratory		Moravian-Silesian Region	Czechia
Podzvičínské		exploratory		Hradec Králové Region	Czechia
Pokroutě		exploratory	up to 600	Hradec Králové, Pardubice Region	Czechia
Pozděkvěté	syn. Bláhovo pozděkvěté	exploratory			Czechia
Přeloučský šišák		exploratory	up to 600	Hradec Králové, Pardubice Region	Czechia
Růžena Bláhová		exploratory			Czechia
Růženka		exploratory			Czechia
Táborita		exploratory			Czechia
Trevírské červené		exploratory	up to 450		unknown
Vejlímek zelený	syn. Vejlímek žlutý	exploratory			unknown
Větrné ploché p.n.		exploratory	up to 600		unknown
Vršovské růžové zimní		exploratory			unknown
Žďárská reneta p.n.		exploratory	up to 600		unknown
Adamovské		local	up to 450	South Moravian, Zlín Region	Czechia
Barynáč		local	up to 450	South Moravian Region, Upper Moravian Slovakia	Czechia
Bílé sládě z Meziny		local		Jeseníky	Czechia
Brněnka		local		Zlín Region	Czechia
Cedron		local		White Carpathians	Czechia
Cibulinka		local		Zlín Region	Czechia
Čančíkovo		local	up to 600	Zlín Region	Czechia
Čandůvka		local		Zlín Region	Czechia
Čapák		local		White Carpathians	Czechia
Červené sládě z Meziny		local		Jeseníky	Czechia
Fialové z Rudy		local		Jeseníky	Czechia
Granátka		local	up to 600	Plzeň Region	Czechia
Homolky		local		White Carpathians	Czechia
Hrachůvka skalická		local		Moravian-Silesian Region	Czechia
Kalvil Žítková 1		local		White Carpathians	Czechia
Kalvil Žítková 2		local		White Carpathians	Czechia
Kamýcké		local	up to 800	Plzeň Region	Czechia
Kdoulové		local		White Carpathians	Czechia
Klobůčanka		local		White Carpathians	Czechia
Kněžovské		local		White Carpathians	Czechia
Kočí hlavy		local		White Carpathians	Czechia
Koník		local		White Carpathians	Czechia

Kopřivnický kuželek	syn. Kuželek	local	up to 600	Moravian-Silesian Region	Czechia
Kosztela		local		Moravian-Silesian Region	Poland
Koty		local		White Carpathians	Czechia
Králické		local	from 350 to 600	Olomouc, Pardubice Region	Czechia
Kubík – červený typ		local		Moravian-Silesian Region	Czechia
Kubík – žlutý typ		local		Moravian-Silesian Region	Czechia
Kútové		local		South Moravian, Zlín Region	Czechia
Kventlík		local		South Moravian, Zlín Region	Czechia
Kysňačka		local		White Carpathians	Czechia
Lašské	syn. Grávštýn lašský	local	up to 600	Moravian-Silesian Region	Czechia
Letní jablko ze Slezské Harty		local		Jeseníky	Czechia
Libinské		local	up to 600	Moravian-Silesian Region	Czechia
Lipůvka		local		White Carpathians	Czechia
Major	* see extensive remark	local	up to 600	Moravian-Silesian Region	Czechia
Masné		local		White Carpathians	Czechia
Mastnůvky		local		White Carpathians	Czechia
Mikovské		local		White Carpathians	Czechia
Mizaura		local		Moravian-Silesian Region	Czechia
Mošťák ze Slezské Harty		local		Jeseníky	Czechia
Multhauptova reneta		local	up to 450	Moravian-Silesian Region	Czechia
Opat Bruno		local	up to 600	South Bohemian Region	Czechia
Opat Leopold		local	up to 600	South Bohemian Region	Czechia
Panenka z Hlučína		local		Moravian-Silesian Region	Czechia
Pasecké vinné		local	up to 600	Moravian-Silesian, Olomouc Region	Czechia
Plesník		local		South Moravian, Zlín Region	Czechia
Podstráňky		local		Zlín Region	Czechia
Prastará jabloň z Dobřečova		local		Jeseníky	Czechia
Sládě z Markvartovic		local		Moravian-Silesian Region	Czechia
Sládě z Norberčan		local		Jeseníky	Czechia
Sladké		local		White Carpathians	Czechia
Stružinské	syn. Pstružinské	local		Hradec Králové, Pardubice Region	Czechia
Svrbáky		local	up to 600	Zlín Region	Czechia
Krasokvět červený	Šarlatka boračská	acceptable	up to 600	South Moravian Region	Czechia
Slezský špičák		local		Moravian-Silesian Region	Czechia
Šmurůvky	syn. Šmuraně	local		White Carpathians	Czechia
Špidlák		local		White Carpathians	Czechia
Štěpánovo z Barchovic		local		Central Bohemian Region	Czechia
Tvarůžek		local		White Carpathians	Czechia
Valašská reneta		local	up to 600	Wallachia	Czechia
Viináre		local		White Carpathians	Czechia
Vinné		local		Moravian-Silesian Region	Czechia
Vínovka		local		Jeseníky	Czechia
Vtelenské	syn. Jizerní, syn. Granátové svatodušní	local	up to 600	Liberec, Central	Czechia

				Bohemian Region	
Výčesa		local		White Carpathians	Czechia
Zárostopka z Bílčic		local		Jeseníky	Czechia
Zárostopka z Jiříkova		local		Jeseníky	Czechia
Zárostopky		local		White Carpathians	Czechia
Zelenka		local		White Carpathians	Czechia
Žďárské červené	syn. Žďárské úrodné	priority	up to 800	Vysočina Region	Czechia
Žimové		local		Moravian-Silesian Region	Czechia

Table 2: Pear varieties

Current variety name	synonym and other remarks	variety	altitude [m]	regionality recommended	country of origin
Ananaska česká		priority	up to 600		Czechia
Bezjaderka Říhova		priority	up to 350		Czechia
Jakubka česká		priority	up to 600	Pardubice, Hradec Králové, Central Bohemian Region	Czechia
Krvavka veliká	Červená role, Levínská krvavka	priority	up to 350	Ústí nad Labem Region	Czechia?
Křesetická	Canalova	priority	up to 600	Pardubice, Hradec Králové, Central Bohemian Region	Czechia
Koporečka	Liegelova máslovka, Kobrčka	priority	up to 350	Ústí nad Labem Region	Czechia
Libovická máslovka	Libochovická máslovka	priority	up to 350	Ústí nad Labem Region	Czechia
Muškatelka letní	Kleine Sommer-Muskateller-Birne, Andělka	priority	up to 600		unknown
Muškatelka šedá		priority	up to 600		Czechia
Nagevicova	Piksálka	priority	up to 600	Vysočina Region	unknown
Solanka	Kačenka p.n.	priority	up to 600	Ústí nad Labem Region	Czechia
Šídlenka		priority	up to 450	South Moravian Region	Czechia
Špinka	Šedá letní	priority	up to 600		France
Amanliská		specialised	up to 600		France
Ananaska courtrayská		specialised	up to 600		Belgium
Děkanka šedá podzimní	Děkanka šedá	specialised	up to 450		unknown
Dvorní	Dvorní máslovka	specialised	up to 600		Belgium
Hardyho	Máslovka Gellertova	specialised	up to 600		Belgium
Charneuská		specialised	up to 450		Belgium
Katzenkopf		specialised	up to 600		
Konference		specialised	up to 600		England
Kozačka štuttgartská		specialised	up to 450		Germany
Kuhfuss	Sommerkatzenkopf, Vařivka Bedřichův Světec	specialised	up to 450		Germany
Merodova		specialised	up to 600		Belgium
Muškatelka ze Stráně p.n.		specialised	up to 600	Karlovy Vary Region	unknown
Nelisova zimní	Neliska zimní, Isembartka zimní	specialised	up to 600		Belgium
Salisburyova	Salisburyho	specialised	up to 600		Belgium
Thirriotova	Ardenská	specialised	up to 600		France
Trévouská	Trévouxská	specialised	up to 600		France
Avranšská	Dobrá Luisa	acceptable	up to 450		France
Bečovská děkanka p.n.	Tenisák, 3D Bečov	acceptable	up to 350	Ústí nad Labem Region	unknown
Bergamotka anglická	Děkanka červenošedá	acceptable	up to 600		England
Bezsemjanka		acceptable	up to 600		Russia
Blumenbachova		acceptable	up to 350		Belgium
Bohemica		acceptable	up to 450		Czechia
Boscova	Boscova lahvice	acceptable	up to 350		Belgium
Clappova	Klappova máslovka	acceptable	up to 450		USA
Clappova červená		acceptable	up to 450		USA
Colomaova	Kolomaova máslovka	acceptable	up to 350		Belgium

Current variety name	synonym and other remarks	variety	altitude [m]	regionality recommended	country of origin
Čáslavka pravá	Sommerapothek Birne, Plutzerbirne, Venuše p.n.	acceptable	up to 450	Ústí nad Labem Region	France
Červencová		acceptable	up to 450		France
Děkanka červencová	not identical with Děkanka letní	acceptable	up to 450		France
Děkanka letní	Bergamotka letní, Mollebusch, Runde Mundnetzbirne, Cibule Závada p.n.	acceptable	up to 450		France
Dielova		acceptable	up to 350		Belgium
Drouardova		acceptable	up to 350		France
Eliška		acceptable	up to 350		Germany
Esperenova máslovka		acceptable	up to 450		Belgium
Giffardova		acceptable	up to 350		France
Hájenka	Máslovka lesní, Dřevobarevná	acceptable	up to 350	Ústí nad Labem Region	Belgium
Hardepontova		acceptable	up to 350	Ústí nad Labem Region	Belgium
Hohensaatenská		acceptable	up to 450		Germany
Hrachová p.n.	Hrachová 2	acceptable	up to 450		unknown
Kolmarská zlatá		acceptable	up to 350	Moravian-Silesian Region	Belgium
Kongresovka		acceptable	up to 450		France
Kozačka bečovská p.n.	Kozačka od hřbitova	acceptable	up to 350	Ústí nad Labem Region	unknown
Křivice		acceptable	up to 350		France
Lebrunova	Le Brunova	acceptable	up to 350		France
Lucasova		acceptable	up to 350		France
Madame Verté		acceptable	up to 450		Belgium
Magdalenka	Zelinka	acceptable	up to 350		France
Marillattova		acceptable	up to 450		France
Mas	President Mas	acceptable	up to 450		France
Máslovka římská		acceptable	up to 350	Ústí nad Labem, South Moravian Region	unknown
Mechelenská		acceptable	up to 350		Belgium
Monchallardova		acceptable	up to 600		France
Muškatelka turecká	Zbuzanka	acceptable	up to 450	Central Bohemian, Ústí nad Labem Region	Turkey
Muškatelka ze Záhoří p.n.		acceptable	up to 450	Karlovy Vary Region	unknown
Naghinova		acceptable	up to 450		Belgium
Pařížanka		acceptable	up to 350		France
Pastelka p.n.		acceptable	up to 450	Karlovy Vary, Ústí nad Labem Region	unknown
Pastornice		acceptable	up to 350		France
Petržilka	Petersbirne,	acceptable	up to 600	Karlovy Vary, Ústí nad Labem Region	Saxony
Pitmastonská		acceptable	up to 350		England
Předobrá		acceptable	up to 350	Plzeň, Ústí nad Labem Region	France
Pstružka		acceptable	up to 350		Germany
Solnohradka	Salcburka	acceptable	up to 450	South Moravian Region	Austria
Sterkmanova	Sterkmansova, Sterkmansova máslovka	acceptable	up to 350		Belgium
Šedá zimní		acceptable	up to 350		France
Valečská děkanka p.n.		acceptable	up to 450		unknown
Viennská		acceptable	up to 350	South Moravian Region,	France

Current variety name	synonym and other remarks	variety	altitude [m]	regionality recommended	country of origin
				Zlín Region	
Virgule		acceptable	up to 350	South Moravian Region, Zlín Region	France
Williamsova	Wiliamsova čáslavka	acceptable	up to 250		England
Williamsova červená	Max Red Bartlet	acceptable	up to 250		USA
Windsorská	Madamka, Královna	acceptable	up to 350	Ústí nad Labem Region	England
Ananaska letní p.n.	Břevnov T_1_011, Břevnov 48	exploratory	up to 450		unknown
Bronzový citron p.n.		exploratory	up to 450	Ústí nad Labem Region	unknown
Citronová letní p.n.	1F Odolice	exploratory	up to 450	Ústí nad Labem Region	unknown
Česká hruška z Kundratic p.n,		exploratory	up to 450	Ústí nad Labem Region	unknown
Dvořákova suška p.n.		exploratory	up to 450	Ústí nad Labem Region	unknown
Fíkovka bečovská p.n.		exploratory	up to 350	Ústí nad Labem Region	unknown
Holenická	Talašova	exploratory	up to 350		unknown
Kolová p.n.	Kolová hruška	exploratory	up to 450		unknown
Lída p.n.	Horní Žďár H6	exploratory	up to 450		unknown
Krvavka moravská	working title of VŠÚO Holovousy	exploratory	up to 350		unknown
Krvavka petřínská p.n.		exploratory	up to 450	Prague	unknown
Limetka p.n.	Herbst-Feigenbirne?	exploratory	up to 450	Ústí nad Labem Region	France?
Malá zimní p.n.	Pierre cornieue?	exploratory	up to 350	Ústí nad Labem Region	unknown
Michálka		exploratory			unknown
Milá křivice p.n.	Milá 02	exploratory	up to 350	Ústí nad Labem Region	unknown
Muškatelka nejmenší p.n.	Jednohubka p.n.	exploratory	up to 350	Prague	unknown
Neznámka		exploratory		South Moravian Region	Czechia
Ovesňačka	multiple varieties of this name exist	exploratory		South Moravian, Zlín Region	Czechia
Půlpánka		exploratory			unknown
Šolcova tepelská p.n.		exploratory	up to 600	Karlovy Vary Region	unknown
Špička		exploratory			unknown
Veleňská děkanka p.n.		exploratory	up to 450	Karlovy Vary, Ústí nad Labem Region	unknown
Cibule Borová I		local		Moravian-Silesian Region	Czechia
Německá národní bergamotka	Cibule Borová II p.n.	local	up to 350	Moravian-Silesian Region	Czechia
Cibulky		local		White Carpathians	Czechia
Císařky		local		White Carpathians	Czechia
Císařská letní	Letní	local		Moravian-Silesian Region	Czechia
Cukrůvka		local		Moravian-Silesian Region	Czechia
Čertí hruška		local		Beskids	Czechia
Džbánky		local		White Carpathians	Czechia
Fajfka		local		South Moravian Region	Czechia
Gansbirne		local		Moravian-Silesian Region	Czechia
Hadravského		local		White Carpathians	Czechia
Hnilička		local		White Carpathians	Czechia
Hnilička z Jiříkova p.n.		local		Jeseníky	Czechia

Current variety name	synonym and other remarks	variety	altitude [m]	regionality recommended	country of origin
Hnilička z Kněžpole p.n.		local		Jeseníky	Czechia
Hnilička z Krásné p.n.		local		Beskids	Czechia
Hnilička z Křížova p.n.		local		Jeseníky	Czechia
Hnilička z Leskovce p.n.		local		Jeseníky	Czechia
Hnilička z Lojkaščanky p.n.		local		Beskids	Czechia
Hnilička z Morávky p.n.		local		Beskids	Czechia
Hnilička z Píště p.n.		local		Moravian-Silesian Region	Czechia
Hnilička z Razové p.n.		local		Jeseníky	Czechia
Hnilička z Roudna p.n.		local		Jeseníky	Czechia
Hnilička z Roudna II p.n.		local		Jeseníky	Czechia
Hnilička z Těchanova p.n.		local		Jeseníky	Czechia
Hnilička ze Starých Heřminov I p.n.		local		Jeseníky	Czechia
Hnilička ze Starých Heřminov II p.n.		local		Jeseníky	Czechia
Hnilička ze Strahovic p.n.		local		Moravian-Silesian Region	Czechia
Hrdlačka		local		White Carpathians	Czechia
Hýl	Hýle	local		White Carpathians	Czechia
Jačménka		local		White Carpathians	Czechia
Jakubinka	(2 types)	local		Moravian-Silesian Region	Czechia
Jakubinka II		local		Moravian-Silesian Region	Czechia
Jihomoravská letní		local		South Moravian Region	Czechia
Jurigova		local		White Carpathians	Czechia
Knížatka		local		South Moravian Region	Czechia
Kořeněná raná p.n.		local		Karlovy Vary Region	Czechia
Královéhradecká máslovka		local		Hradec Králové, Pardubice Region	Czechia
Krehule	Kněždubjanka	local		White Carpathians	Czechia
Krvavka letní	Krvavka z Vyškovce	local	up to 600	White Carpathians	Czechia
Krvavka podzimní		local		White Carpathians, Beskids	Czechia
Krvavka z Lopeníka		local		White Carpathians	Czechia
Krvavka ze Lhoty p.n.		local		Moravian-Silesian Region	Czechia
Letní hnilička z Markvartovic p.n.	(Dědek a Babka)	local		Moravian-Silesian Region	Czechia
Letní hnilička ze Starých Heřminov p.n.		local		Jeseníky	Czechia
Letní hrušeň z Dolního Benešova p.n.		local		Moravian-Silesian Region	Czechia
Letní hrušeň z		local		Jeseníky	Czechia

Current variety name	synonym and other remarks	variety	altitude [m]	regionality recommended	country of origin
Horního Benešova p.n.					
Letní vajíčko p.n.	Bestbirne p.n., Stráž H1	local	up to 450	Karlovy Vary Region	unknown
Malá Dvory p.n.		local	up to 600	Karlovy Vary and Plzeň Region	unknown
Makulda p.n.		local	up to 600	Karlovy Vary Region	Czechia
Margetinka		local		Moravian-Silesian Region	Czechia
Medovka		local		White Carpathians	Czechia
Medula		local		White Carpathians	Czechia
Meduňka		local		Moravian-Silesian Region	Czechia
Medůvky		local		White Carpathians	Czechia
Ministr dr. Lucius		local	up to 450	Moravian-Silesian Region	Germany
Mnichovská hruška		local	up to 600	Karlovy Vary Region	Czechia
Oharkula		local		White Carpathians	Czechia
Okruhlinka	multiple types exist	local		Moravian-Silesian Region	Czechia
Oranžová zimní p.n.		local	up to 450	Karlovy Vary Region	Czechia
Oriešanka		local		White Carpathians	Czechia
Ovesninka		local		Moravian-Silesian Region	Czechia
Pchavka		local		Moravian-Silesian Region	Czechia
Plaskarka		local		Moravian-Silesian Region	Czechia
Podzimní hrušeň z Bystré p.n.	Psíkova	local		Beskids	Czechia
Podzimní hrušeň z Dolní Lhoty p.n.		local		Moravian-Silesian Region	Czechia
Podzimní hrušeň z Dolního Benešova p.n.		local		Moravian-Silesian Region	Czechia
Podzimní hrušeň z Krásné p.n.		local		Beskids	Czechia
Praskula	Dule	local		White Carpathians	Czechia
Psíkova		local		White Carpathians	Czechia
Repovica		local		White Carpathians	Czechia
Sírová p.n.		local	up to 450	Karlovy Vary, Ústí nad Labem Region	unknown
Sudinky		local		White Carpathians	Czechia
Súkeničky		local		White Carpathians	Czechia
Vavřinky		local		Moravian-Silesian Region	Czechia
Zelenky		local		White Carpathians	Czechia
Zelinka chlumecká		local	up to 350	Pardubice, Hradec Králové Region	Czechia
Žitňačka		local		White Carpathians	Czechia
Žňuvka		local		Moravian-Silesian Region	Czechia

Table 3: Plum varieties

Current variety name	synonym and other remarks	variety	altitude [m]	areas with high rates of plum pox virus (PPV)	regionality recommended	country of origin
Althanova renkloda	Slíva Althanova	priority	up to 450	no		Czechia
Ananasová česká		priority	up to 350	not known	Hradec Králové Region	Czechia
Augustinka		priority	up to 600	not known		unknown
Babče		priority	up to 450	yes	Pardubice, Hradec Králové Region	Czechia
Brněnská	Anička	priority	up to 250	no	South Moravian Region	Czechia
Černošická		priority	up to 450	no	Central Bohemian Region	Czechia
Durancie	Horňácká durancie	priority	up to 600	yes	Zlín, South Moravian, Olomouc Region	Czechia
Hamanova	Hamanova švestka	priority	up to 600	no	Hradec Králové Region	Czechia
Chrudimská	Vaňkova úrodná	priority	up to 350	yes	Pardubice Region	Czechia
Malvazinka		priority	up to 250	yes		England?
Špendlík žlutý		priority	up to 450	no	Zlín Region, South Moravian Region, Olomouc Region	Czechia
Švestka domácí	Domácí švestka, Domácí velkoplodá and all their types	priority	up to 450	no		unknown
Čačanská lepotica		specialised	up to 450	yes		Serbia
Čačanská rodná		specialised	up to 600	no		Serbia
Elena		specialised	up to 350	yes		Germany
Gabrovská		specialised	up to 450	yes		Bulgaria
Herman		specialised	up to 450	yes		Sweden
Mirabelka Nancyská	Mirabelka z Nancy, Nancyská	specialised	up to 350	yes		France
Stanley		specialised	up to 450	yes		USA
Wangenheimova		specialised	up to 600	no		Germany
Wazonova renkloda		specialised	up to 350	yes		Germany/France
Anna Späth		acceptable	up to 250	yes		Germany
Auerbacherská		acceptable	up to 350	no		Germany
Bryská	Bonne de Bry	acceptable	up to 450	no		France
Bühlská		acceptable	up to 450	not known		Germany
Carpatin		acceptable	up to 350	yes		Romania
Čačanská najbolja		acceptable	up to 250	yes		Serbia
Čačanská raná		acceptable	up to 350	yes		Serbia
Esslingenská švestka		acceptable	up to 250	yes		Germany
Flotowova mirabelka		acceptable	up to 350	no		Germany
Hanita		acceptable	up to 450	yes		Germany
Katalónský špendlík		acceptable	up to 250	no		unknown
Katinka		acceptable	up to 450	no		Germany
Kirkeho		acceptable	up to 350	not known		England
Mirabelka raná		acceptable	up to 350	not known		France
Ontario		acceptable	up to 350	yes		USA

Current variety name	synonym and other remarks	variety	altitude [m]	areas with high rates of plum pox virus (PPV)	regionality recommended	country of origin
Opál		acceptable	up to 450	yes		Germany
Oullinská		acceptable	up to 250	no	Moravian-Silesian Region	France
Těchobuzická		acceptable	up to 450	yes	Ústí nad Labem Region	Czechia
Toptaste	Toptaste = trademark, variety name = Kulinaria	acceptable	up to 350	yes		Germany
Valjevka		acceptable	up to 450	yes		Serbia
Velká cukrová	Cukrová velká	acceptable	up to 450	not known		unknown
Zimmerova		acceptable	up to 350	no		Germany
Zelená renkloda raná	Slíva zelená ranná	acceptable	up to 250	no		France
Zelená renkloda velká	Slíva zelená velká	acceptable	up to 250	no		Greece
Meroldtova renklota		exploratory	up to 350	not known	Ústí nad Labem Region	Czechia
Meruňková žlutá		exploratory	up to 250	not known		unknown
Meruňkovitá renkloda	Slíva marhulovitá (meruňkovitá)	exploratory	up to 250	not known		unknown
Pavče žluté	Paví vejce žluté	exploratory	up to 600	not known	Krkonoše	unknown
Šidlovka		exploratory		not known		Czechia
Štolcova	Štolcova slíva	exploratory	up to 350	not known	Central Bohemian Region	Czechia
Úrodná raná		exploratory		not known		Czechia
Vejčitá žlutá slíva		exploratory		not known		Czechia
Bílá slíva		local	up to 450	yes	White Carpathians	Czechia
Bílá trnečka		local		yes	Wallachia	Czechia
Bílé trnky		local	up to 450	yes	White Carpathians	Czechia
Blanhardtovy švestky		local		not known	South Moravian Region	Czechia
Čistecká raná švestka		local		not known	Central Bohemian Region	Czechia
Dolanka		local		not known	Central Bohemian Region	Czechia
Eliášova		local	up to 250	not known	Central Bohemian Region	Czechia
Fürstova raná		local		not known	Ústí nad Labem Region	Czechia
Herova švestka		local		not known	Central Bohemian Region	Czechia
Kostelecká švestka		local		not known	Pardubice Region	Czechia
Kouřimská	Kouřimská zlepšená švestka	local		not known	Central Bohemian Region	Czechia
Kozí cecky		local	up to 600	yes	White Carpathians	Czechia
Kuhnova blaženka		local		not known	Pardubice Region	Czechia
Kuhnova pozdní švestka		local		not known	Pardubice Region	Czechia
Kulovačka z Kašnice		local		yes	Moravian-Silesian Region	Czechia
Kulovačka z Krásné		local		yes	Beskids	Czechia
Kulovačka z Roudna		local		yes	Jeseníky	Czechia

Current variety name	synonym and other remarks	variety	altitude [m]	areas with high rates of plum pox virus (PPV)	regionality recommended	country of origin
Kulovačky	Gulovačka	local	up to 450	yes	White Carpathians	Czechia
Malé sračky		local		yes	White Carpathians	Czechia
Maškova slíva		local		not known	Hradec Králové Region	Czechia
Medovka		local		not known	Jeseníky	Czechia
Mělnická švestka		local	up to 250	not known	Central Bohemian Region	Czechia
Okrůhlica		local		yes	White Carpathians	Czechia
Pavlůvka		local	up to 450	yes	South Moravian, Zlín Region	Czechia
Podroužkova		local		not known	Pardubice Region	Czechia
Rychlice pastyříkova	Rychlice stračovská	local		not known	Hradec Králové Region	Czechia
Sračky		local		not known	Upper Moravian Slovakia	Czechia
Šlapanická švestka		local		not known	South Moravian Region	Czechia
Švestička	Švestičky	local	up to 450	yes	Upper Moravian Slovakia	Czechia
Trnka		local		yes	Zlín Region	Czechia
Trnka u Spáčilů	Spáčilova	local		not known	Zlín Region	Czechia
Valašská trnečka		local		not known	Wallachia	Czechia
Vohralíkova	Chrudimská pozdní švestka	local		not known	Pardubice Region	Czechia
Vrablačka		local	up to 600	yes	Zlín Region	Czechia
Walterova raná	Waltrova	local	up to 250	not known	Central Bohemian Region	Czechia
Zelená	Zelená slíva	local	up to 600	yes	Upper Moravian Slovakia	Czechia
Zelená švestka z Bojkovic	not identical with Zelená švestka	local		not known	Zlín Region	Czechia
Žluté durancie		local	up to 600	yes	Upper Moravian Slovakia	Czechia

*Types of the Švestka domácí include notably the formerly separate varieties known under the following names:
Kostelecká, Kouřimská, Muškátová, Srbova raná, Srbova velká, Jiráskova, Pacholíkova, Patřínská, Pozdní (or Dušičková), Předmostecká,Toušická, Vinická, Šlapanická, and more.

Table 4: Cherry varieties

Current variety name	synonym and other remarks	variety	altitude [m]	regionality recommended	country of origin
Doupovská černá		priority	up to 600	Karlovy Vary, Ústí nad Labem Region	Czechia
Granát		priority	up to 450	South Moravian Region	Czechia
Chlumecká raná		priority	up to 450	Central Bohemian, Hradec Králové, Pardubice Region	Czechia
Jánovka mšenská		priority	up to 450	Central Bohemian Region	Czechia
Karešova	Karšova	priority	up to 600		Czechia
Klecanská černá		priority	up to 450	Central Bohemian Region	Czechia
Libějovická	Libějovická raná	priority	up to 600	Central Bohemian Region	Czechia
Medovka		priority	up to 600		Czechia
Pivovka	Sychrovská chrupka	priority	up to 600	Hradec Králové Region	Czechia
Skalka		priority	up to 600	South Moravian Region	Czechia
Srdcovka přeúrodná	Přeúrodná srdcovka, Sercowa plodňa	priority	up to 600	Central Bohemian, Hradec Králové, Pardubice Region	Czechia
Těchlovická	Ziklova, Těchlovická I	priority	up to 600	Hradec Králové Region	Czechia
Troprichterova		priority	up to 600		Czechia
Uherská měkká	Uherka, Moravka	priority	up to 450	South Moravian Region	Czechia
Vítovka molitorovská		priority	up to 600	Central Bohemian Region	Czechia
Vlkova	Vlkova obrovská	priority	up to 450	South Moravian, Olomouc, Zlín Region	Czechia
Žalanka	Šalanka	priority	up to 450	Central Bohemian Region	Czechia
Annonayská		specialised	up to 450		France
Boppardská raná		specialised	up to 600		Germany
Dönissenova		specialised	up to 450		Germany
Droganova		specialised	up to 600		Germany
Germersdorfská		specialised	up to 600		Germany
Grollova		specialised	up to 600		Germany
Kassinova raná		specialised	up to 450		Germany
Kaštánka	Early Rivers	specialised	up to 600		England
Koburská raná		specialised	up to 350		France
Kordia	Těchlovická II, Černíkova	specialised	up to 600		Czechia
Lyonská raná	Jaboulayova polochrupka, Ramon Oliva	specialised	up to 450		France
Rychlice německá		specialised	up to 600		Germany
Tygrovaná		specialised	up to 600		unknown
Willova		specialised	up to 600		Germany
Badacsonská černá		acceptable	up to 450		Hungary
Baltavarská		acceptable	up to 350		Hungary
Burlat		acceptable	up to 450		France
Bütnerova pozdní chrupka		acceptable	up to 450		Germany
Eltonova	Eltonská srdcovka, Srdcovka Eltonova	acceptable	up to 450		England
Františkova	Císaře Františka chrupka	acceptable	up to 600		England
Hedelfingenská		acceptable	up to 600		Germany

Current variety name	synonym and other remarks	variety	altitude [m]	regionality recommended	country of origin
Ladeho pozdní		acceptable	up to 450		Germany
Krügerova	Krügerova srdcovka, Srdcovka Krügerova	acceptable	up to 600		Germany
Medňanská		acceptable	up to 450		Slovakia?
Moreau		acceptable	up to 450	Pardubice, Hradec Králové Region	France
Napoleonova	Lauermanova, Büttnerova červená chrupka	acceptable	up to 450		Germany
Schneiderova	Thurn Taxis, Přeloučská pumra, Slatiňanská obrovská chrupka, Taixmen p.n.	acceptable	up to 350		Germany
Těchlovan		acceptable	up to 450		Czechia
Velká černá chrupka		acceptable	up to 350		Germany
Walpurgiska		acceptable	up to 450		Germany
Winklerova černá	Winklerova černá chrupka	acceptable	up to 450		Germany
Winklerova raná		acceptable	up to 600		Germany
Zeisbergrova	Litoměřická, Mamutka	acceptable	up to 600	Ústí nad Labem, Hradec Králové, Pardubice Region	Germany
Dobrá bílá p.n.	Bílá dobrá	exploratory		South Moravian Region	unknown
Buketova		exploratory	up to 450	Central Bohemian, Hradec Králové, Pardubice Region	Czechia
Černá chrupka		exploratory			Czechia
Černá špička		exploratory			unknown
Černá špička ze Stráže p.n.		exploratory	up to 450		unknown
Černá z Horan		exploratory			Czechia
Černá z Ladzan		exploratory			Czechia
Heřmanoměstecká		exploratory	up to 600	Pardubice Region	Czechia
Holovouská chrupka		exploratory	up to 450		Czechia
Chlumecká černá		exploratory	up to 450	Hradec Králové, Pardubice Region	Czechia
Kostelostatnice jaroměřská		exploratory	up to 600	Central Bohemian, Hradec Králové, Pardubice Region	Czechia
Kozmice		exploratory	up to 450	Central Bohemian Region	Czechia
Královská	Srdcovka královská, Volské srdce	exploratory	up to 350		unknown
Moravská rychlice		exploratory	up to 600	all Moravian regions	Czechia
Mramorovaná chrupka	Buky	exploratory	up to 450		unknown
Mšenská žlutka p.n.		exploratory			unknown
Oxfordka	Oxfordská chrupka	exploratory	up to 600	Pardubice Region	unknown
Perla z Bezdězu p.n.		exploratory		Central Bohemian, Liberec Region	unknown
Pivka		exploratory	up to 450		Czechia
Plotišťská		exploratory	up to 600	Hradec Králové, Pardubice Region	Czechia
Poplzská raná		exploratory	up to 450		Czechia
Růžovka		exploratory	up to 600		Czechia
Šakvická	sour cherry variety of the same name exists	exploratory			Czechia
Švestičková	Campule La Tupie	exploratory			France
Uherka velká		exploratory			unknown

Current variety name	synonym and other remarks	variety	altitude [m]	regionality recommended	country of origin
Václavka		exploratory			unknown
Velichova chrupka		exploratory	up to 450	Hradec Králové, Pardubice Region	Czechia
Vlachův semenáč		exploratory	up to 450	all Moravian regions	Czechia
Vlk Karel		exploratory	up to 450	all Moravian regions	Czechia
Vlk Sláva		exploratory	up to 450	all Moravian regions	Czechia
Vosenka		exploratory	up to 450	all Moravian regions	Czechia
Broumovská		local	up to 450	Hradec Králové Region	Czechia
Choltická		local	up to 450	Pardubice Region	Czechia
Chotěbořská		local	up to 600	Vysočina Region	Czechia
Kostelnice	Kostelnička	local	up to 600	Hradec Králové, Pardubice Region	Czechia
Markétka		local	up to 450	Hradec Králové, Pardubice Region	Czechia
Pumra	Hořická Pumra, suspicion of duplicity with Napoleonova	local	up to 450	Hradec Králové, Pardubice Region	Czechia
Slatiňanská	suspicion of duplicity with Schneiderova	local	up to 450	Hradec Králové, Pardubice Region	Czechia
Vídeňská raná srdcovka		local	up to 450	Hradec Králové, Pardubice Region	Czechia

Table 5: Sour cherry varieties

Current variety name	synonym and other remarks	variety	altitude [m]	regionality recommended	country of origin
Amarelka královská	Early Richmond	priority	up to 600		France
Vackova		priority	up to 600	Central Bohemian, Hradec Králové, Pardubice Region	Czechia
Vítova		priority	up to 450	Central Bohemian, Hradec Králové, Pardubice Region	Czechia
Královna hortenzie		specialised	up to 600		France
Ostenheimská	Ostheimská ušlechtilá	specialised	up to 600		unknown
Sladkovišeň raná	Májovka	specialised	up to 450		France
Španělská		specialised	up to 600		Spain
Vlasačka	Ostheimská	specialised	up to 600		Spain
Zdlouhavá		specialised	up to 450		unknown
Bruselská	Bruselská hnědá višeň	acceptable	up to 450		Belgium
Gobetova		acceptable	up to 600		France
Chatenayská	Chatenayova	acceptable	up to 450		France
Körösská		acceptable	up to 450		Hungary
Ministr Podbielski	Podbielskij, Kochova zlepšená	acceptable	up to 450		Germany
Montmorency		acceptable	up to 450		France
Morela pozdní	Moreillská, Amarelka stinná, Morela stinná	acceptable	up to 600		France
Olivet		acceptable	up to 450		France
Umbra		acceptable	up to 450		Slovakia
Amarelka pístovská p.n.		exploratory	up to 450	Karlovy Vary Region	unknown
Amarelka klonální p.n.		exploratory	up to 450		unknown
Amarelka chvalkovická		local	up to 450	Hradec Králové Region	Czechia
Dobřínovská sladkovišeň		local	up to 450	Hradec Králové Region	Czechia
Kiškovická		local	up to 350	South Bohemian, Ústí nad Labem Region	Czechia
Kvítecká višeň		local	up to 450	Pardubice Region	Czechia?
Nedošínská		local	up to 450	Hradec Králové Region	Czechia
Rokytnická višeň		local	up to 600	Krkonoše	Czechia?
Šakvická	a cherry variety of the same name exists	local	up to 350	South Moravian Region	Czechia

Table 6: Apricot varieties

Current variety name	synonym and other remarks	variety	altitude [m]	areas with high rates of plum pox virus (PPV)	regionality recommended	country of origin
Bohutická		priority	up to 350	no	South Moravian Region	Czechia
Holubova	Cukrová Holubova	priority	up to 250	no	Central Bohemian, Ústí nad Labem Region	Czechia
Kloboucká raná		priority	up to 450	no	South Moravian Region	Czechia
Mělnická	Mělnická melounová	priority	up to 350	not known	Central Bohemian, Ústí nad Labem Region	Czechia
Rakovského		priority	up to 250	no	South Moravian Region	Slovakia
Roztocká		priority	up to 250	not known	Central Bohemian, Ústí nad Labem Region	Czechia
Sabinovská		priority	up to 250	no	South Moravian, Zlín, Olomouc Region	Slovakia
Velkopavlovická		priority	up to 250	no	South Moravian Region	Czechia
Znojemská		priority	up to 450	no	South Moravian Region	Czechia
Želešická		priority	up to 250	no	South Moravian Region	Czechia
Adriana		specialised	up to 350	yes		Czechia
Betinka		specialised	up to 350	yes		Czechia
Candela		specialised	up to 350	yes		Czechia
Nora		specialised		yes		
Harlayne		specialised	up to 450	yes		Canada
Kompakta		specialised	up to 450	yes		Czechia
Leskora		specialised	up to 450	no		Czechia
Radka		specialised	up to 450	yes		Czechia
Sophinka	informally Sophia	specialised	up to 350	yes		Czechia
Ananasová		acceptable	up to 350	no		Netherlands ?
Bredská	Holandská	acceptable	up to 250	no		Netherlands
Keckemet rozsa	Růžová pozdní	acceptable	up to 350	no	South Moravian Region	Hungary
Královská	Würtemberská ?	acceptable	up to 350	not known		France
Kráska		acceptable	up to 250	no		Hungary
Leala		acceptable	up to 450	no		Slovakia
Legolda		acceptable	up to 250	no		Czechia
Luizetova meruňka		acceptable	up to 350	no		France
Lydia		acceptable	up to 350	not known		Czechia
M-VA-1		acceptable	up to 450	no		Czechia
M-VA-2		acceptable	up to 450	no		Czechia
M-VA-3		acceptable	up to 450	no		Czechia
Maďarská		acceptable	up to 250	no	South Moravian Region	Hungary
Nancyská		acceptable	up to 350	no		France
Orange red		acceptable	up to 250	yes		USA
Paviot		acceptable	up to 350	no		France
Vynoslivyj		acceptable	up to 450	no		Ukraine
Bořetická		exploratory	up to 450	yes	South Moravian Region	Czechia

Current variety name	synonym and other remarks	variety	altitude [m]	areas with high rates of plum pox virus (PPV)	regionality recommended	country of origin
Dobrovická princezna p.n.		exploratory	up to 250	not known	Central Bohemian Region	unknown
Dostálova meruňka		exploratory	up to 250	not known	Olomouc Region	Czechia
Floderova pozdní p.n.		exploratory	up to 250	not known	Olomouc Region	unknown
Chloumecká pozdní p.n.		exploratory	up to 350	not known	Central Bohemian, Ústí nad Labem Region	unknown
Macanda p.n.		exploratory	up to 250	not known	South Moravian Region	unknown
Zpěvákova		exploratory	up to 250	not known	South Moravian	Czechia
Hájek		local	up to 350	no	South Moravian Region	Czechia
Motalova nejlepší		local	up to 450	no	Zlín Region	Czechia
Starobřeclavská		local	up to 350	not known	South Moravian Region	Czechia
Židlochovická		local	up to 350	not known	South Moravian Region	Czechia

Table 7: Peach and almond varieties

Current variety name	synonym and other remarks	variety	altitude [m]	areas with high rates of plum pox virus (PPV)	regionality recommended	country of origin
Peaches:						
Lednická žlutá	Italský semenáč	priority	up to 250	not known	South Moravian Region	Czechia
Marta		priority	up to 450	not known	South Bohemian and Plzeň Region	Czechia
B-VA-1		acceptable	up to 350	no	South Moravian Region	Czechia
B-VA-2		acceptable	up to 350	no	South Moravian Region	Czechia
B-VA-3		acceptable	up to 350	no	South Moravian Region	Czechia
BSB 1		acceptable	up to 350	no	South Moravian Region	Czechia
BSB 2		acceptable	up to 350	no	South Moravian Region	Czechia
BSB 3		acceptable	up to 350	no	South Moravian Region	Czechia
Almond trees:						
Vama		priority	up to 250	yes	South Moravian Region	Czechia
Zora	syn. Hustopeče VII	priority	up to 250	yes	South Moravian Region	Czechia
Husle		specialised	up to 250	not known	South Moravian Region	Czechia
MN-VA-1		specialised	up to 250	yes	South Moravian Region	Czechia
Sladkoplodá krajová	Sultán	acceptable	up to 250	yes	South Moravian Region	USA
Šárka p.n.		exploratory	up to 250	not known	Central Bohemian Uplands	unknown

other varieties not defined

use of seedlings permitted

Table 8: Minority species varieties

Current variety name	synonym and other remarks	variety	altitude [m]	regionality recommended	country of origin
Shipova:					
Tatarova		priority	up to 600		Czechia
Bollvilleriana	Šípková	specialised	up to 450		France
Sorb:					
Radobýl p.n.	Radobýl jihozápad	priority	up to 450	Ústí nad Labem and Central Bohemian Region	Czechia
Lednice LE-1		specialised	up to 450	South Moravian, Olomouc, Zlín Region	unknown
Sossenheimer Riessen		acceptable	up to 450		Germany
Kněždub OS-28		local	up to 350	South Moravian, Olomouc, Zlín Region	Czechia
Mlýnky u Strážnice OS-1		local	up to 450	South Moravian, Olomouc, Zlín Region	Czechia
Němčičky Sudný		local	up to 450	South Moravian, Olomouc, Zlín Region	Czechia
Strážnice OS-17-Adamcova		local	up to 450	South Moravian, Olomouc, Zlín Region	Czechia
Strážnice OS-64		local	up to 450	South Moravian, Olomouc, Zlín Region	Czechia
Tvarožná Lhota OS-26-Špirudova		local	up to 450	South Moravian, Olomouc, Zlín Region	Czechia
Tvarožná Lhota OS-28		local	up to 450	South Moravian, Olomouc, Zlín Region	Czechia
Horní Nezly		local	up to 450	Ústí nad Labem and Central Bohemian Region	Czechia
Velké Žernoseky		local	up to 450	Ústí nad Labem and Central Bohemian Region	Czechia
Mountain ash:					
Moravský sladkoplodý		priority	up to 800	Moravian-Silesian Region	Czechia
Businka		acceptable	up to 800		Russia

Koncentra		acceptable	up to 800		Germany
Kubovaja		acceptable	up to 800		Russia
Nevěžinský		acceptable	up to 800		Russia
Rosica Major		acceptable	up to 800		Germany
Rosina		acceptable	up to 800		Germany
Solněčnaja		acceptable	up to 800		Russia
Sweet chestnut:					
Bojar		acceptable	up to 450		Slovakia
Bouche de Betizac		acceptable	up to 450		France
Brunella		acceptable	up to 450		France
Hnědák p.n.		acceptable	up to 600	Pardubice and Vysočina Region	Czechia
Maraval		acceptable	up to 450		France
Marigoul		acceptable	up to 450		France
Mistral		acceptable	up to 450		Slovakia
Nasavrcký pozdní p.n.		acceptable	up to 600	Pardubice and Vysočina Region	Czechia
Nasavrcký raný p.n.		acceptable	up to 600	Pardubice and Vysočina Region	Czechia
Nasavrcký velkoplodý p.n.		acceptable	up to 600	Pardubice and Vysočina Region	Czechia
Slatiňanský p.n.		acceptable	up to 600	Pardubice and Vysočina Region	Czechia
Vestecký p.n.		acceptable	up to 600	Pardubice and Vysočina Region	Czechia
Medlar tree:					
Bredská		acceptable	up to 500		Netherlands
Bezsemenná		acceptable	up to 500		Serbia
Dellice des Vannes		acceptable	up to 500		France
Holandská		acceptable	up to 500		unknown
Metzká		acceptable	up to 500		France
Notthingam		acceptable	up to 500		England
Süssmispel		acceptable	up to 500		Germany
Szenteszi Rozsa		acceptable	up to 500		Hungary
Velkoplodá		acceptable	up to 500		USA
Westerveld		acceptable	up to 500		Germany
Mulberry tree:					
Galicia	Morus alba	acceptable	up to 450		Ukraine
Illinois Everbearing	Morus alba	acceptable	up to 450		USA

Jugoslávská	Morus alba	acceptable	up to 250		Serbia
Milanowek	Morus alba	acceptable	up to 450		Poland
Molperňa	Morus nigra	acceptable	up to 250		Czechia
Mora Grossa	Morus alba	acceptable	up to 250		Italy
Trnavská	Morus nigra	acceptable	up to 250		Slovakia
Wellington	Morus alba	acceptable	up to 450		USA
Bzenecká	Morus alba	local	up to 250	South Moravian, Olomouc, Zlín Region	Czechia
Chrudimská	Morus alba	local	up to 350	Pardubice and Vysočina Region	unknown
Lánská	Morus alba	local	up to 350	Pardubice and Vysočina Region	unknown
Chuchelská	Morus alba	local	up to 350	Pardubice and Vysočina Region	unknown
Persian walnut:					
Lake		specialised	up to 600		USA
Mars		specialised	up to 600		Czechia
Seifersdorfský		specialised	up to 600		Germany
Apollo		acceptable	up to 450		Czechia
Jupiter		acceptable	up to 450		Czechia
Kardinál		acceptable	up to 450		Czechia
Saturn		acceptable	up to 450		Czechia
Sychrov		acceptable	up to 450		Czechia
Common hazel:					
Hallská obrovská	Hallesche Riesen	specialised	up to 600		Germany
Barcelonský hranatý	Barcelonská	acceptable	up to 450		Spain
Bollwillerský	Zázrak z Bollweileru, Wunder von Bollweiler	acceptable	up to 450		France
Gunstlebert		acceptable	up to 450		Germany
Lombardský bílý		acceptable	up to 350		Italy
Lombardský červenolistý		acceptable	up to 350		Italy
Lombardský červený		acceptable	up to 350		Italy
Nottingham		acceptable	up to 450		England
Webbova	Webbův	acceptable	up to 350		England
Zellský červenolistý		acceptable	up to 450		Germany
Quince:					

Cydora Robusta		specialised	up to 600		Germany
Champion		acceptable	up to 450		unknown
Izobilnaja		acceptable	up to 450		Ukraine
Konstantinopolská		acceptable	up to 450		unknown
Leskovač		acceptable	up to 450		Serbia
Muškatnaja		acceptable	up to 450		Ukraine
Portugalská		acceptable	up to 450		unknown
Ronda		acceptable	up to 450		Germany
Vranja		acceptable	up to 250		Serbia
Wüdonia		acceptable	up to 450		Germany
European cornel:					
Bolestraszycky		specialised	up to 450		Poland
Elegantní		specialised	up to 450		Ukraine
Ekzoticznyj		specialised	up to 450		Ukraine
Fruchtal		specialised	up to 450		Ukraine
Kazanlak		specialised	up to 450		Bulgaria
Lukjanovský		specialised	up to 450		Ukraine
Lutea		specialised	up to 450		Hungary
Pancharevo		specialised	up to 450		Bulgaria
Shafer		specialised	up to 450		Bulgaria
Shan		specialised	up to 450		Bulgaria
Shumen		specialised	up to 450		Bulgaria
Vydubecký	Wydubietski	specialised	up to 450		Ukraine
Vyšhorodský		specialised	up to 450		Ukraine
Vranja		acceptable	up to 250		Serbia
Wüdonia		acceptable	up to 250		Germany

For the above species, other varieties are not defined.

For these species, use of seedlings, offsets or layers is permitted if respective species produce them.

Annex 5 Illustrations

All the following illustrations present examples of possible designs for performance of agrotechnical operations. Specific design may be quite different technically, as long as it ensures achievement of values specified herein.

Young tree anchoring and protection method have to comply with conditions on the site. Depending on them, materials, technical design for the structure and the tying have to be used to prevent damage to the trees.

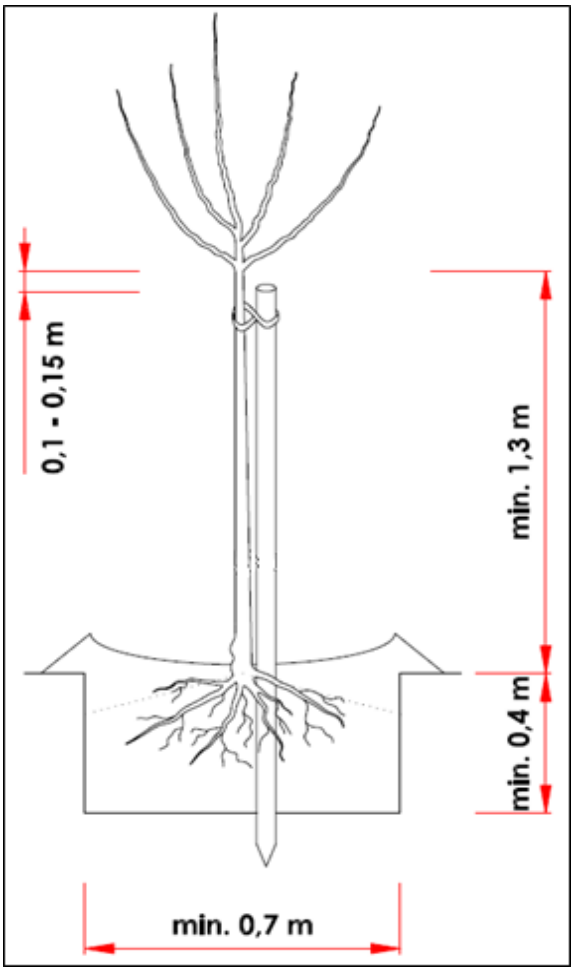

Fig. 1: Planting a fruit tree on flat ground

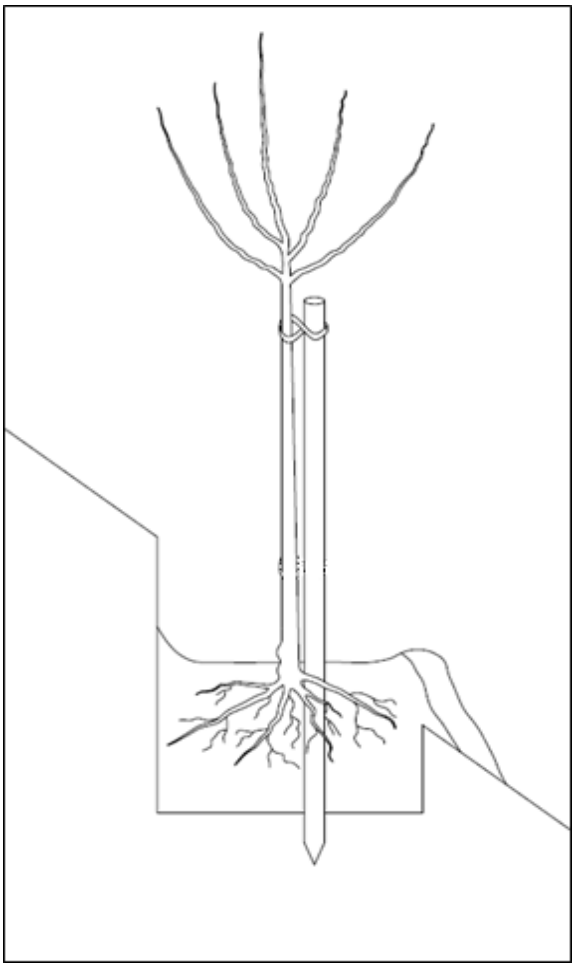

Fig. 2: Planting a fruit tree on a slope

Illustrations: Bc. David Ladra

For the sake of legibility of the tying method, the tree is shown without trunk protection. That is achieved using a sleeve (see Fig. 3, 4 and 5). Possible materials: wire mesh, plastic, reed, etc.

Thus, the tree protection class matches paragraph 5.7.8. This tree anchoring and protection method is not possible on sites with presence of herbivorous animals starting with small sheep breed size, and on sites with increased requirements for static security of trees (e.g., windy sites).

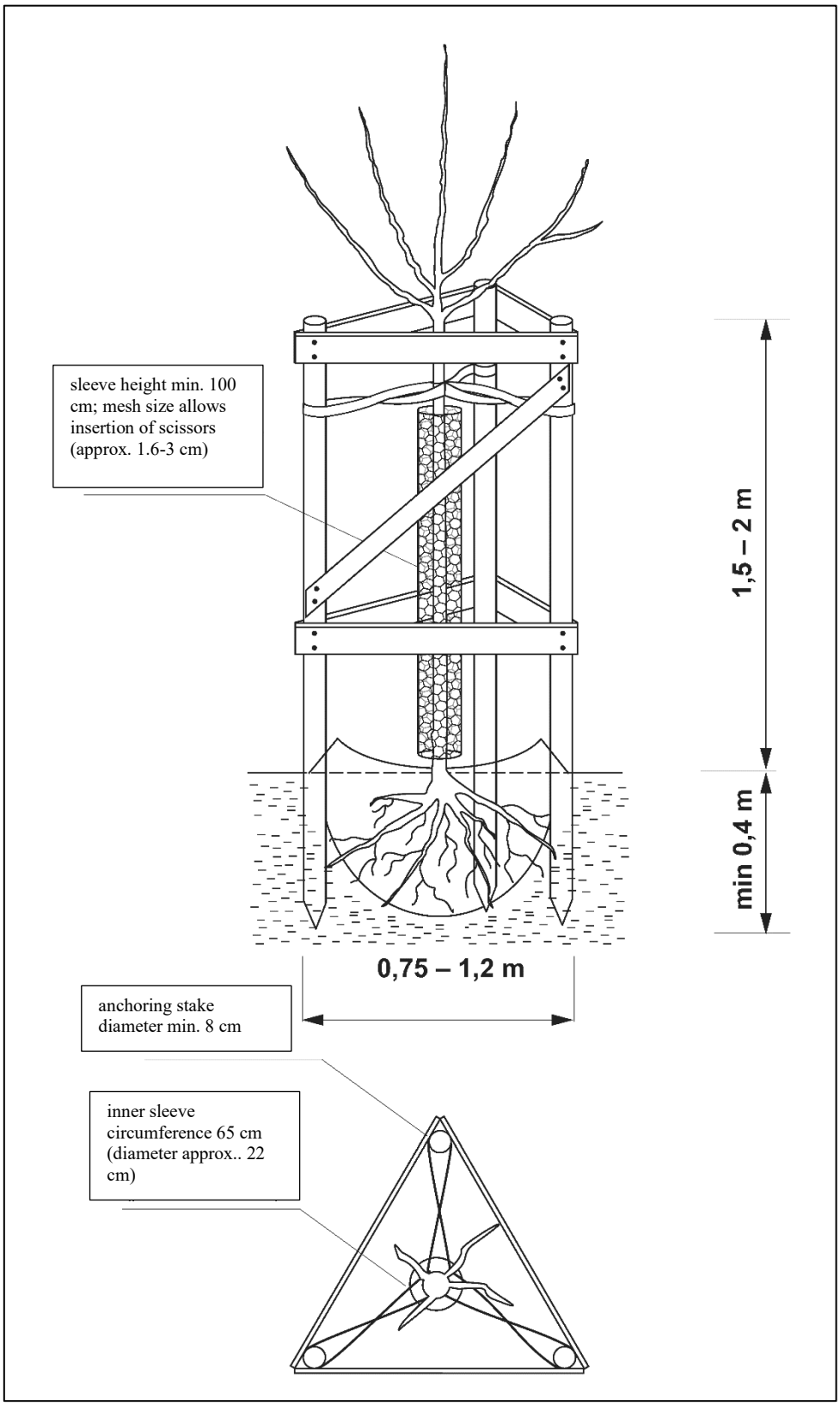

Fig. 3: Planting with three-point anchoring and trunk protection Illustration: Martin Feikus

It is necessary for larger young trees and stricter requirements for their anchoring. The tree protection class matches paragraph 5.7.8. It is not possible for sites with presence of roe deer or herbivorous farm animals starting with small sheep breed size.

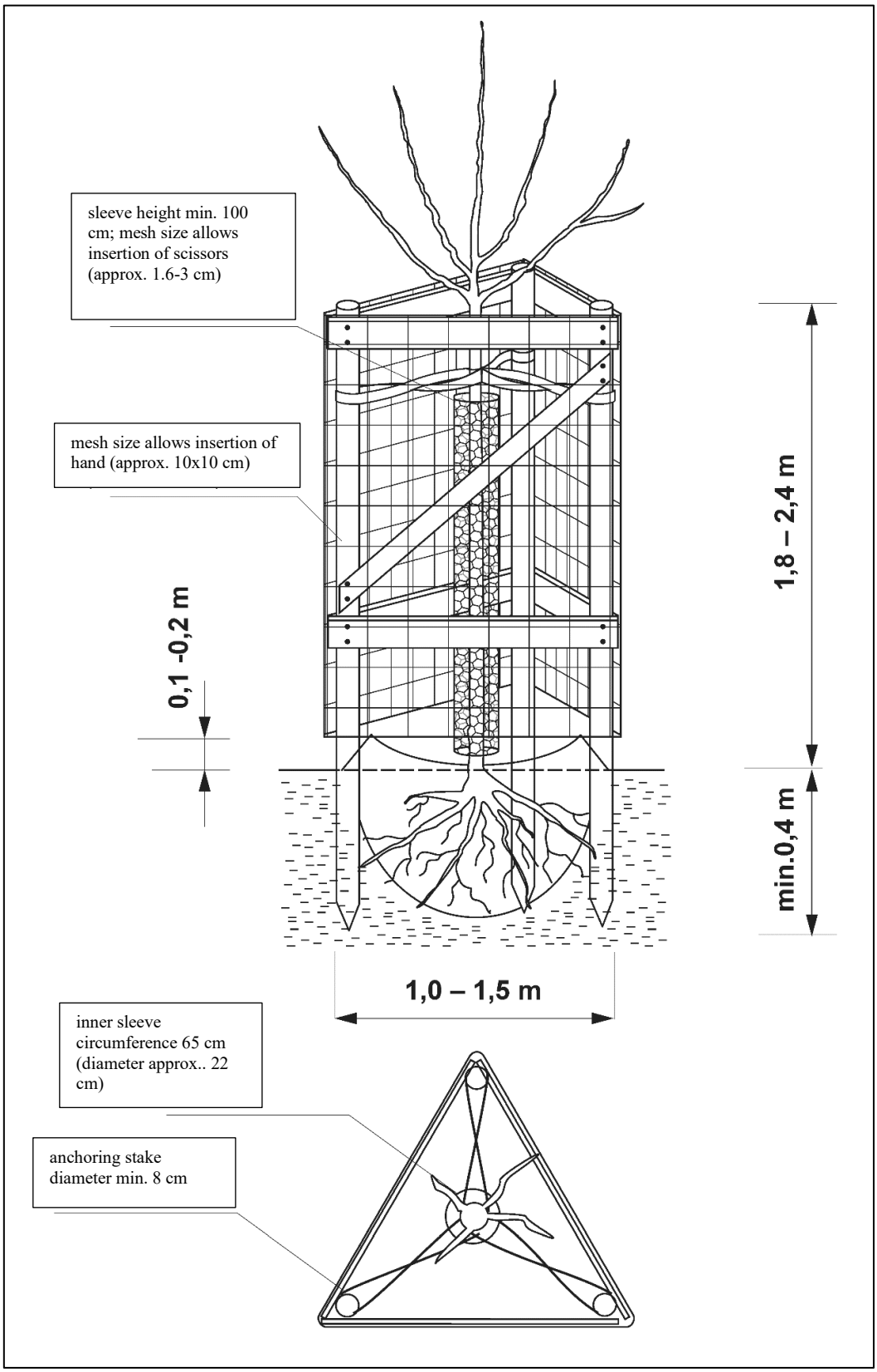

Fig. 4: Planting with three-point anchoring, trunk protection and outer protective layer. Illustration: Martin Feikus

The tree protection class matches Category 2 or 3 pursuant to 5.7.9 or 5.7.10, depending on materials used.

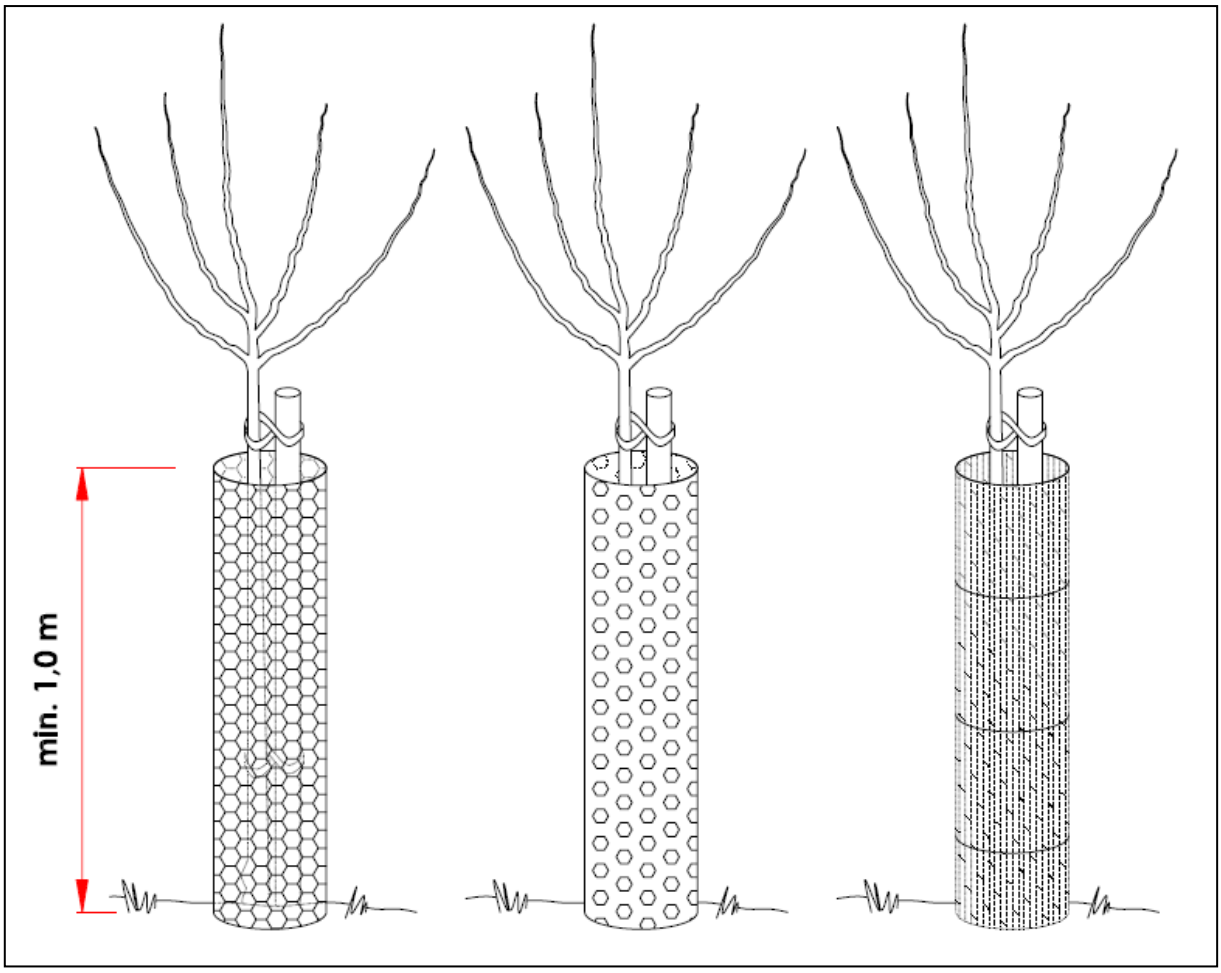

Fig. 5: Trunk protection for one-point anchoring – design examples (wire mesh, plastic, reed, etc.) Illustration: Bc. David Ladra

The protective sleeve can also be installed so that it encircles only the tree trunk without the support stake. The tree protection class matches paragraph 5.7.8.

This tree protection class cannot be used on sites with presence of roe deer, fallow deer, red deer, sheep or larger farm animals.

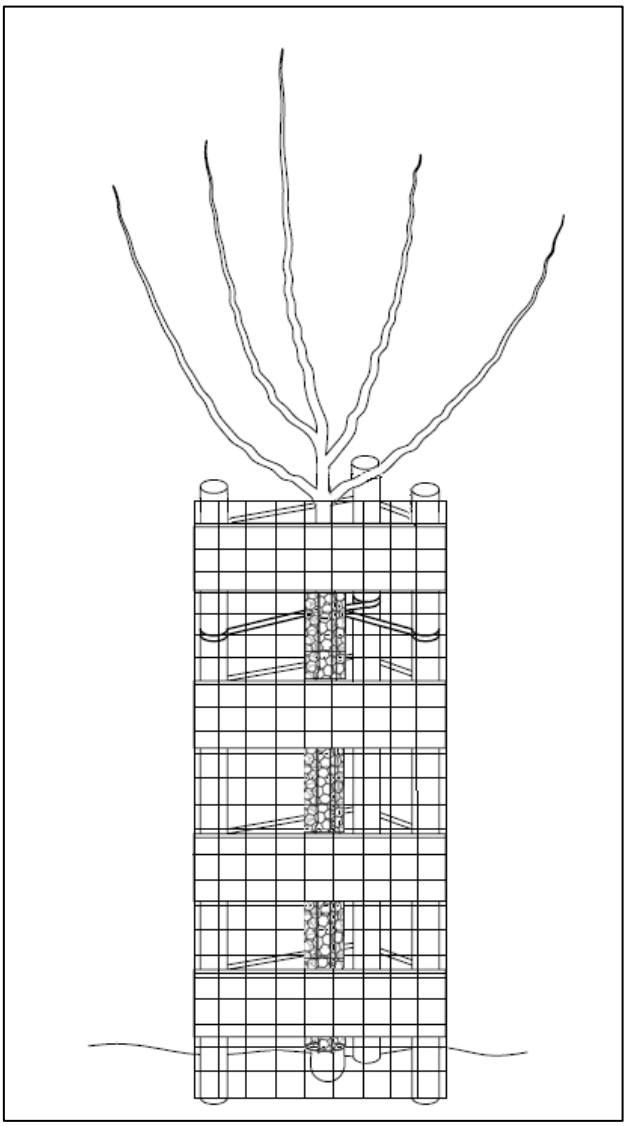

Fig. 6: Planting with three-point anchoring and reinforced outer protective casing – design example (see 5. 7. 10) Illustration: Bc. David Ladra

Annex 6 List of Nature and Landscape Management Standards developed (Series C – TSES and landscape-forming elements)

01 001	Assessment of TSES functionality
01 002	Creating the territorial system of ecological stability (plans and projects)
02 001	Implementation of TSES biocentres and biocorridors
02 002	Development of landscape-forming and interactive elements
02 003	Planting of fruit trees in the agricultural landscape
02 004	Management of TSES components, incl. landscape-forming and interactive elements
02 005	Management of functional plantings of fruit woody plants
02 006	Establishment and management of fruit tree gene pool areas
02 007	Grasslands

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