

# Knowledge-driven Baltic Cider Production and Branding for Growth and Competitiveness of SMEs

Project ID: EE-LV00145

## Some common things and differences obtaining answers important to the TERROIR map



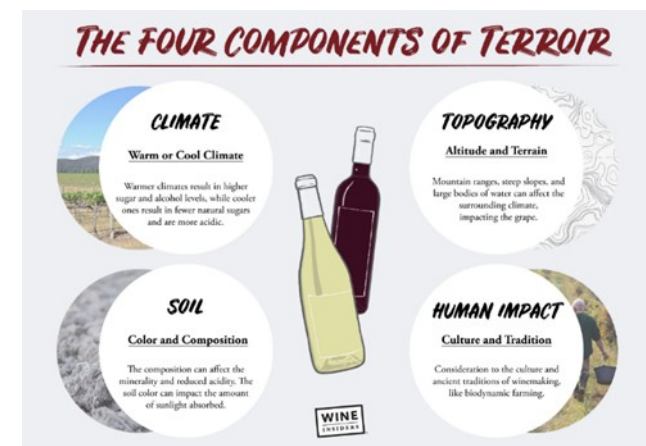
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**TOPOGRAPHY** (incl. information about plants, growing systems)

*What is the relief of the orchard area (flat, slope N, slope S, slope W, slope E, top of hill, valley (downland))?*

flat



slope E

flat

flat

slope S

flat

flat

flat

slope S

flat

up of valley

slope S, SW

Estonia

Latvia

**TOPOGRAPHY** (incl. information about plants, growing systems)

*What rootstock is used for apples?*

**Semi-dwarf rootstock**



M 26  
MM 106  
MM 106  
B.118  
Antonovka seedlings  
weak  
medium

B.358?  
M 26  
B.9  
A2  
B.118

Antonovka seedlings  
Antonovka seedlings  
Püre 1  
Püre 1  
M 26  
MM 106  
MM 106  
MM 106  
MM 106  
MM 111  
M 7  
A2



## **TOPOGRAPHY** (incl. information about plants, growing systems)

*What are the planting distances?*

3 × 5 m    1.5 × 3 m  
4 × 8 m    10 × 10 m  
1.8 × 5 m  
2 × 5 m



2.7 × 4 m  
2.5 × 4.5 m  
15 × 15 m  
6 × 8 m    3 × 5 m  
4 × 6 m  
4 × 5 m  
3 × 5 m  
2.5 × 4 m

**Estonia**

**Latvia**

**TOPOGRAPHY** (incl. information about plants, growing systems)

*What is the age of the orchard (main part)?*

**Range 7 – 65 years, dominating 10 – 12 years**



10  
less than 10  
10  
19

12  
15  
60 +  
40  
7  
7 - 12  
65

**Estonia**

**Latvia**



**TOPOGRAPHY** (incl. information about plants, growing systems)

*Is the line under the trees, their canopy at least in the first part of the season kept clean of weeds, grasses?*

**Only 42% answers «yes»**



yes

no

no

no

no

yes

yes

no

yes

no

yes

**Estonia**

**Latvia**

**TOPOGRAPHY** (incl. information about plants, growing systems)

*How frequently grass is moved in the orchard?*

**1 (old orchard on seedling rootstocks) up to 5 times per season. In average 2 - 3 times.**



3-4 × during season

Monthly

2 × season

two times

Estonia

3 times a season

ONCE A YEAR

2 times a year

Few times per season

2-3 times a season

3 - 5 times per season

Yes

Latvia



## **TOPOGRAPHY** (incl. information about plants, growing systems)

### *How the tree canopy is managed?*



Biannual pruning

extensive pruning  
once a year

minimal

**Estonia**

Pruned in spring and in July. Sometimes, some steps are skipped.

Pruned in spring most years

Every spring we try to cut old branches and taking out lower part of tree, so tractor can go through

ALMOST NONE, JUST CUT OUT THE DEAD BRANCHES AND LOWER ONES

Classic orcharding method

Annual pruning during late winter or early spring. Dead, diseased, or crossing branches are removed regularly. Selective thinning of the canopy helps balance vegetative growth and fruiting, especially important in older trees, which can become too dense. Some trees are left to grow more freely to support habitats for birds, insects, and lichens.

Support structures (like wooden props or ropes) are occasionally used for very old branches to prevent breakage under fruit load.

**Latvia**



**TOPOGRAPHY** (incl. information about plants, growing systems)

*Is the growth of apples in the orchard satisfying?*

**Yes: 83%**

YES  
NO YES  
YES



**YES = 100%**

**TOPOGRAPHY** (incl. information about plants, growing systems)

*Is the yield of apples satisfying in normal conditions (without spring frosts etc.) (yes, no).*

**yes**



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Latvia

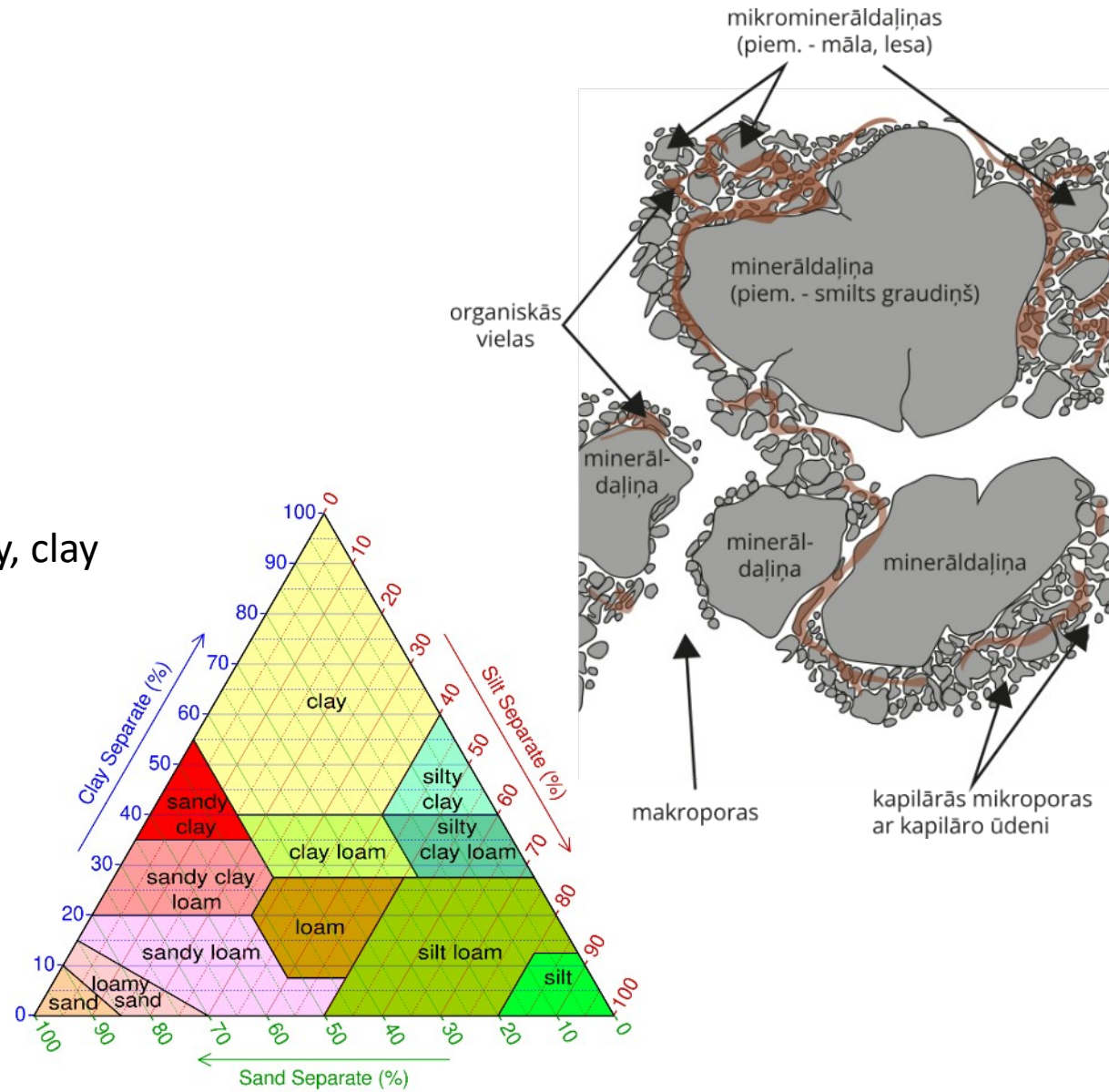


# Soil

*What soil granulometric content do you have in the orchard? (sandy, loam, sandy clay, clay)*

loam  
loam  
sandy clay, clay  
sandy

Estonia



sandy clay  
sandy clay  
sandy, sandy clay  
sandy clay  
loam, clay  
clay  
sandy, loam

Latvia

## Soil

### *Agrochemical properties of soil*

	parameter	Range EE – LV in SMEs	
4.9 – 7.4	pH	4.9 – 7.4	5.1 – 7.2
2.6 – 9.1	Organic matter, %	2.1 – 9.1	2.1 – 4.9
84 – 627	Phosphorus (P <sub>2</sub> O <sub>5</sub> ), mg/kg	21 – 627	21 – 585
46 – 396	Potassium (K <sub>2</sub> O), mg/kg	46 – 396	60 – 285
87 – 5965	Mg, mg/kg	50 - 5965	50 – 898
659 - 10297	Ca, mg/kg	659 - 10297	754 – 2640
0.9 – 2.4	B, mg/kg	0.5 – 2.4	0.5 – 1.4
1.4 – 5.5	Cu, mg/kg	1.2 – 13.3	1.2 – 13.3
26.5 – 262	Mn, mg/kg	26.5 – 262	67.0 – 188.0
1.3 – 33.5	Zn, mg/kg	1.3 – 33.5	1.6 – 14.2

Estonia

Latvia



## CLIMATE (incl. harvesting)

*What is the typical beginning of orchard season? (green tip – decade)*



April

April II decade

End of April

Late April

April III decade

April II – III decade

April II – III decade

May I decade

April II decade

Estonia

Latvia

## CLIMATE (incl. harvesting)

*What is the highest temperature in summer?*



26.5 °C

25 - 30

30

Estonia

25 – 27 °C

30

33

34

33

34

34

Latvia



## **CLIMATE (incl. harvesting)**

*What is the typical harvest time?*

september - october

september

september II – october I dec.

august – october II dec.

**Estonia**



october

september - october II decade

august III – october III dec. (Dabinet, Cidross)

september III dec.

september I dec.

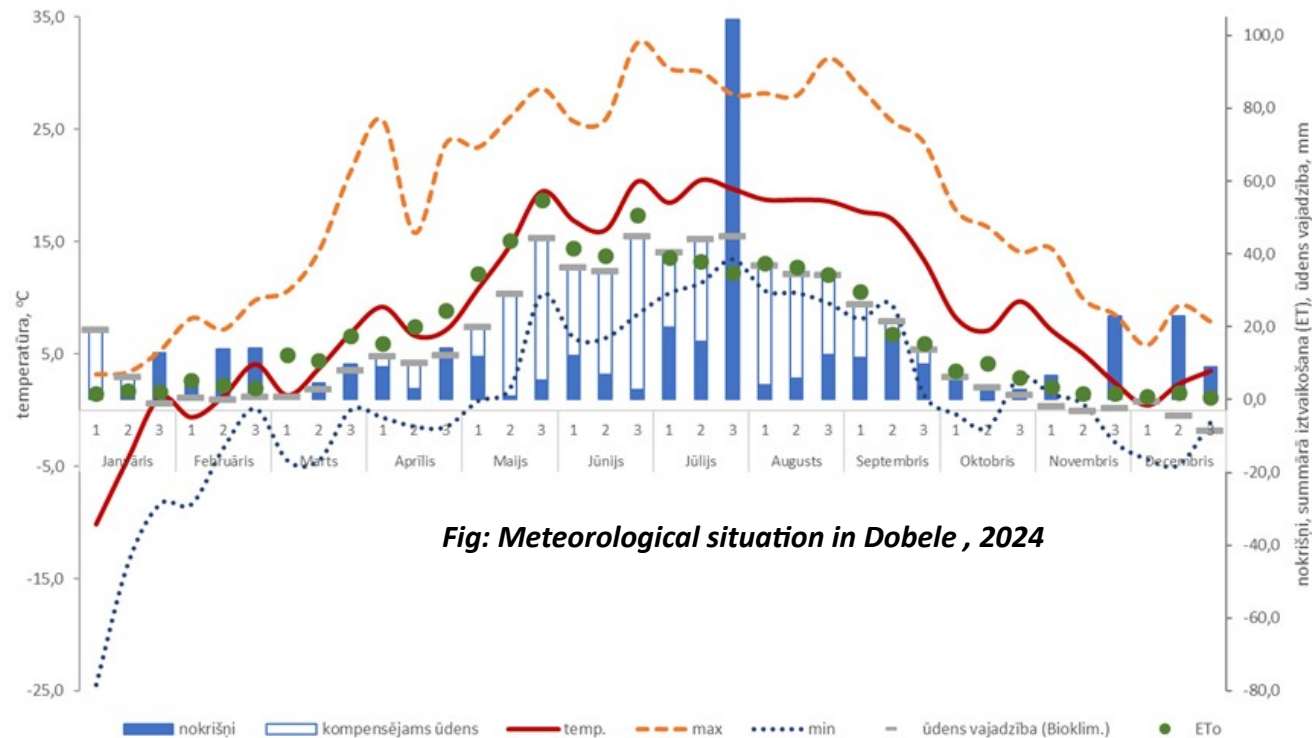
september - november II dec.

september III – november III

**Latvia**

## CLIMATE (incl. harvesting)

*Is the precipitation enough, moisture regime in the soil satisfied?*



Short-term in some years

Yes, no problems

Yes, no problems

Yes, no problems

Yes, no problems

Yes, no problems

Regular lack of moisture in recent years

Short-term in some years

Short-term in some years

Regular lack of moisture in recent years

Estonia

Latvia



## HUMAN IMPACT

*What do you think "cider" is?*

(made only from apples; made mainly from apples with other fruit additives; made from various fruit/berry components; other combinations of fermented raw materials are also "cider")

Only from apples

Only from apples

Only from apples

Only from apples

Made mainly from apples with other fruit additives

Made mainly from apples with other fruit additives

Made mainly from apples with other fruit additives

Made mainly from apples with other fruit additives



Only from apples

Only from apples

Only from apples

Only from apples

Estonia

Latvia

## HUMAN IMPACT

*What raw materials (apple varieties) do you use to produce cider?*

*(I make from 1 variety; from 2-3 varieties; from several varieties; I use wild apples; other)*

Some great Estonian crab apples are  
important in blends

From several cultivars

From several cultivars

From 2-3 cultivars

From several cultivars

From several cultivars

From several cultivars

From several cultivars

From several cultivars

From several cultivars

Many cultivars and wild apples

Several cultivars and wild apples

## HUMAN IMPACT

*What varieties (or mixtures) do you use as the base juice with the highest yield?*

Auksis

Liivi Kuldrenett,

Auksis

Nitchneri maasikõun

Auksis

Liivika

Cortland

Antonovka

Krista

Talvenauding

Dabinett

winter varieties

Estonia



Lietuvas pepiņš  
Lietuvas pepiņš  
Lietuvas pepiņš

Zarja Alatau

Rudens svītrainais  
Rudens svītrainais (Grāvenšteins)  
Rudens svītrainais

Bogatir

Antonovka  
Antonovka

Sinap Orlovskij

Hyslop Hastings

Sīpoliņš

Cortland

Ligol

Auksis  
Auksis

krebs

Antej

Belorusskoje Malinovoye

Latvia



## HUMAN IMPACT

*What varieties (or mixtures) do you use for sweetening?*

Crab apples

local Estonian



Sīpoliņš

Auksis  
Auksis

Desert apples

Not use

Grāfenšteins, Belorusskoje  
Maļinovoje, Cortland, Antejs,  
Ligols, Zarja Alatau

Estonia

Latvia

## HUMAN IMPACT

*What varieties (or mixtures) do you use to provide tannins and the respective cider flavour?*

crab apple cultivars

crab apple cultivars

crab apple cultivars

Dabinett

Yarlington Mill

Seaaia

Wild apples Wild apples  
Wild apples Wild apples  
Wild apples

blending different juices

bitter seedlings, cider apples

Tremmlets bitter

crab apple cultivars

crab apple cultivars

Mitchelin, Dabbinet,  
Debbie, Hassings

Estonia

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## HUMAN IMPACT

*How do you ferment cider?*

I ferment each cultivar/mixture  
separately and then mix

I ferment each cultivar/mixture  
separately and then mix

both

I mix the juices and then ferment together

**Estonia**

I ferment each cultivar/mixture  
separately and then mix

I ferment each cultivar/mixture  
separately and then mix

both

both

I mix the juices and then ferment together

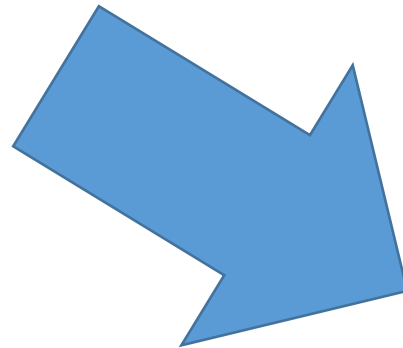
I mix the juices and then ferment together

I mix the juices and then ferment together

I mix the juices and then ferment together

I mix the juices and then ferment together

**Latvia**





## HUMAN IMPACT

*How long is the fermentation time of the ciders you produce?*

9 months

Up to 3-4 months in cool conditions

at least 10 months

Year at least

1 month

1 month till 12 month depending of  
cultured or wild fermentation

min 6 months

fastest is 6 months, longest 24 months

Primary fermentation in tanks up to 3  
months, secondary fermentation in bottles  
up to 10 years, on average 3 years.

3 weeks

up to 2 months

1- 4 months

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## HUMAN IMPACT

*Is CO<sub>2</sub> added to your cider or not (naturally fermented)?*

yes

yes

Both. Bottle fermented  
with natural bubbles, cans  
with added CO<sub>2</sub>

no

Estonia

YES!

yes

yes

yes

yes

yes

yes

yes

yes

both

both

Latvia

## HUMAN IMPACT

*What types of ciders do you produce?*



Semi-dry  
Semi-dry

Semi-sweet  
Semi-sweet

flavoured

sweet

Ice cider as a sweet cider

**Estonia**



Semi-dry  
Semi-dry  
Semi-dry  
Semi-dry  
Semi-dry

Semi-sweet  
Semi-sweet  
Semi-sweet  
Semi-sweet

With other fruit/berries added

sweet  
sweet  
sweet

**Latvia**



## HUMAN IMPACT

*What is your total production volume, on average per year?*

30 000 L  
50 000 L  
2 000 L  
100 000 L



100 000 L  
30 000 L  
5 000 - 10 000 L  
10 000 - 12 000 L  
5 000 L  
6 000 L  
400 L  
8 000 L

Estonia

Latvia

## HUMAN IMPACT

*What is the percentage distribution between the ciders you produce?*

10% dry, 10% semi-dry, **40% semi-sweet**, 20% sweet, 10% other

Majority - **medium sweet**

**60% dry**, 40% semi-dry

10% dry, 20% semi-dry, **60% semi-sweet**, 10% sweet

**dry 75%**, semi-dry 25%

**100% dry**

Dray 30%, **semi-dry 40%**, semi-sweet 30%



**30% dry, 30% semi-dry, 30% semi-sweet**, 10% flavoured

**Semi-dry 50%**, dry 45%, ice cider 5%

**50% dry**, 40% semi dry, 10% sweet

**100% dry**

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## HUMAN IMPACT

### *Who are your cider users - target audience?*

Rather successful people, with higher income. They are usually more educated, broad-minded people who appreciate good quality food and drink.

Age 28-55, Young professionals through established aficionados—old enough to appreciate craft quality, young enough to experiment. Values craftsmanship, terroir, slow food, and experiential travel. Reads food & drink magazines, follows artisanal brands on Instagram.

farm visitors, special shops and restaurants

cider-lovers

**Estonia**

Bars

35-80 yo

20-35 y.o.

Bulk is youngsters 20-40 yer olds in 'hipster bars'. Some cider conosiors (which count is slowly growing), visitours to our cidery (random type).

Tourist, local people and ourselves

Who like real cider, otherways not specified.

Educated adults - age 25-50

People between 25-40 year old



**Latvia**

# HUMAN IMPACT

## *What are your cider sales channels?*

**On-site** at the production site, **Retail chains**, **Restaurants/cafes**,  
**Selling online**

**On-site** at the production site, **Retail chains**,  
**Restaurants/cafes**, Participating in  
festivals/markets, **Selling online**

**On-site** at the production site,  
**Restaurants/cafes**, Participating in  
festivals/markets, **Selling online**

**On-site** at the production site, **Retail**  
**chains**, **Restaurants/cafes**, Participating in  
festivals/markets, **Selling online**



**Estonia**

**On-site** at the production site, **Restaurants/cafes**,  
Participating in festivals/markets

**Retail chains**, **Restaurants/cafes**

**On-site** at the production site, **Retail chains**,  
**Restaurants/cafes**, Participating in festivals/markets,  
**Selling online**

**On-site** at the production site, **Retail chains**,  
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**Latvia**