

If the spur is not used, vine trunk is prolonged
Each year, fruiting wood grows further from the trunk peak
Frequent utilization of the spur thickens foliage in the vicinity of
the trunk peak – development of fungi diseases
Use the spur from time to time to maintain vine structure or to
make up for any damage of old wood

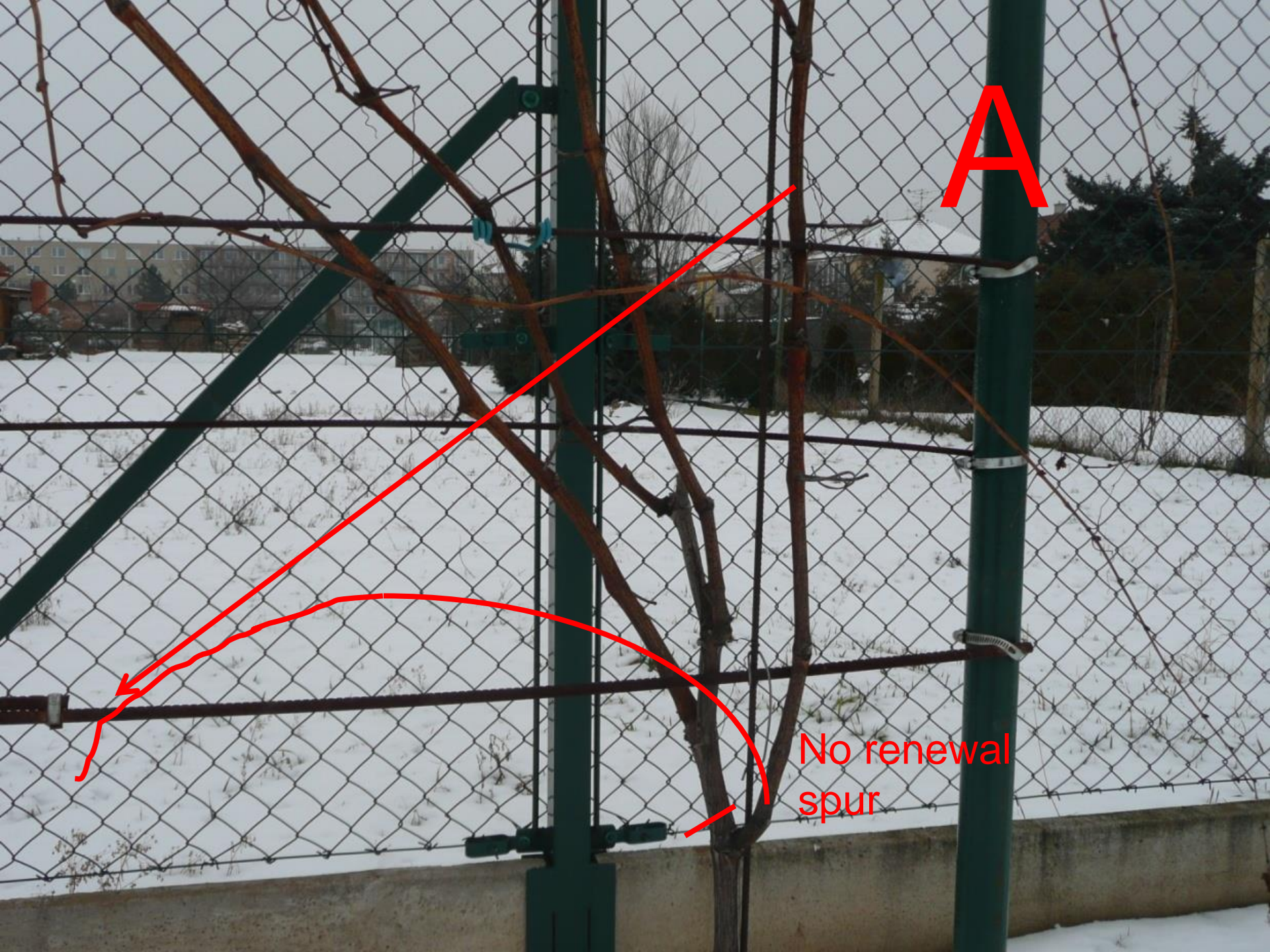




No
renewal
spur



Renewal
spur

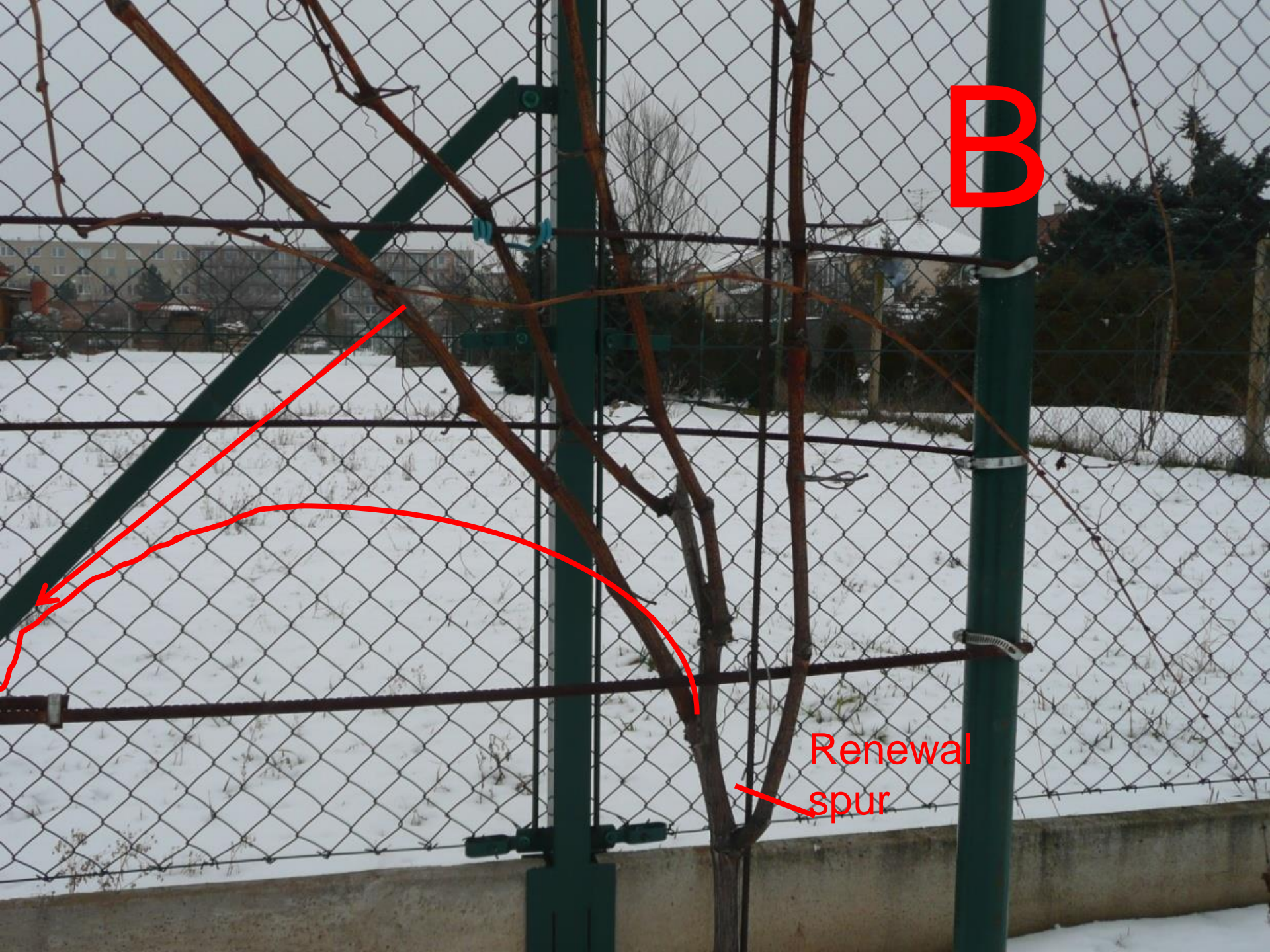


A

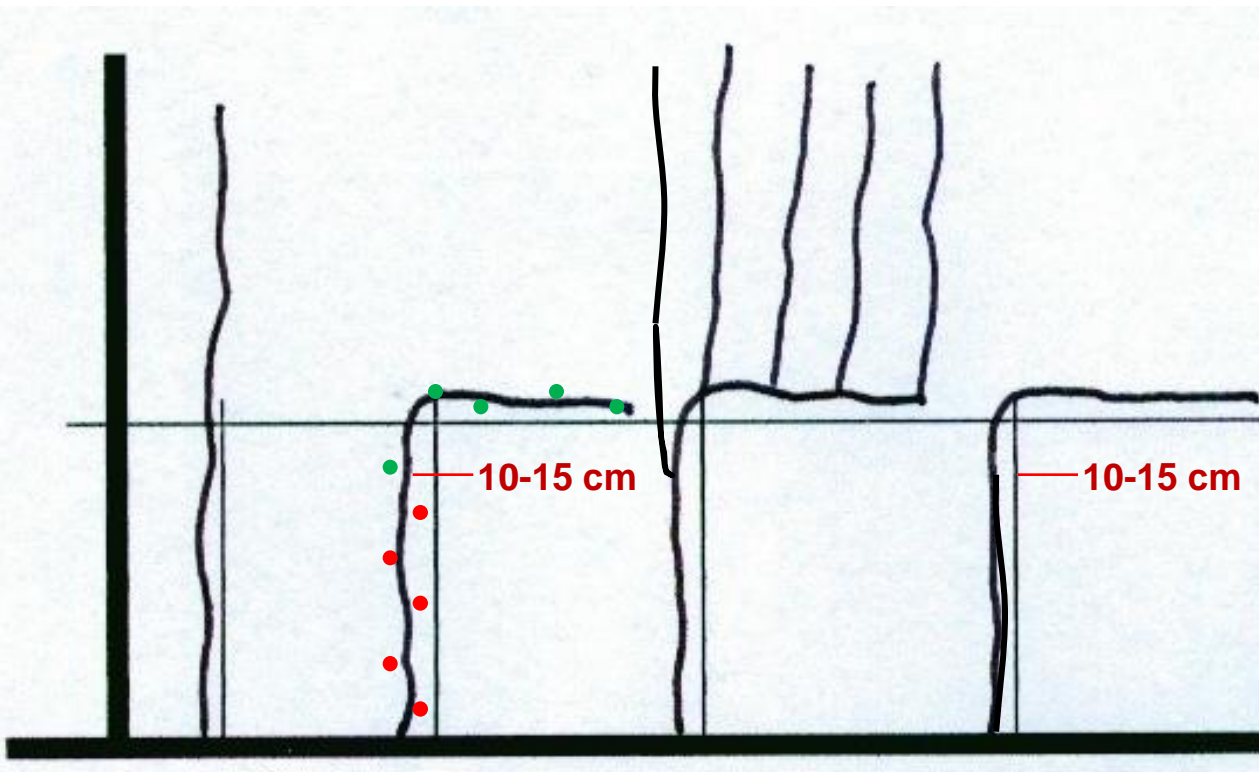
No renewal spur

B

Renewal spur



c) Cultivation of trunk: Short horizontal arched cane
(very vigorous vine growth after planting)



1. rok

tvárování kmínku
na krátký tažeň

2. rok

při řezu na krátký tažeň
lze ponechat 4-6
letorostů

Trunk reaches
10-15 cm below
the wire

Eliminate all
annual shoots



10-15 cm

Leave
annual
shoots

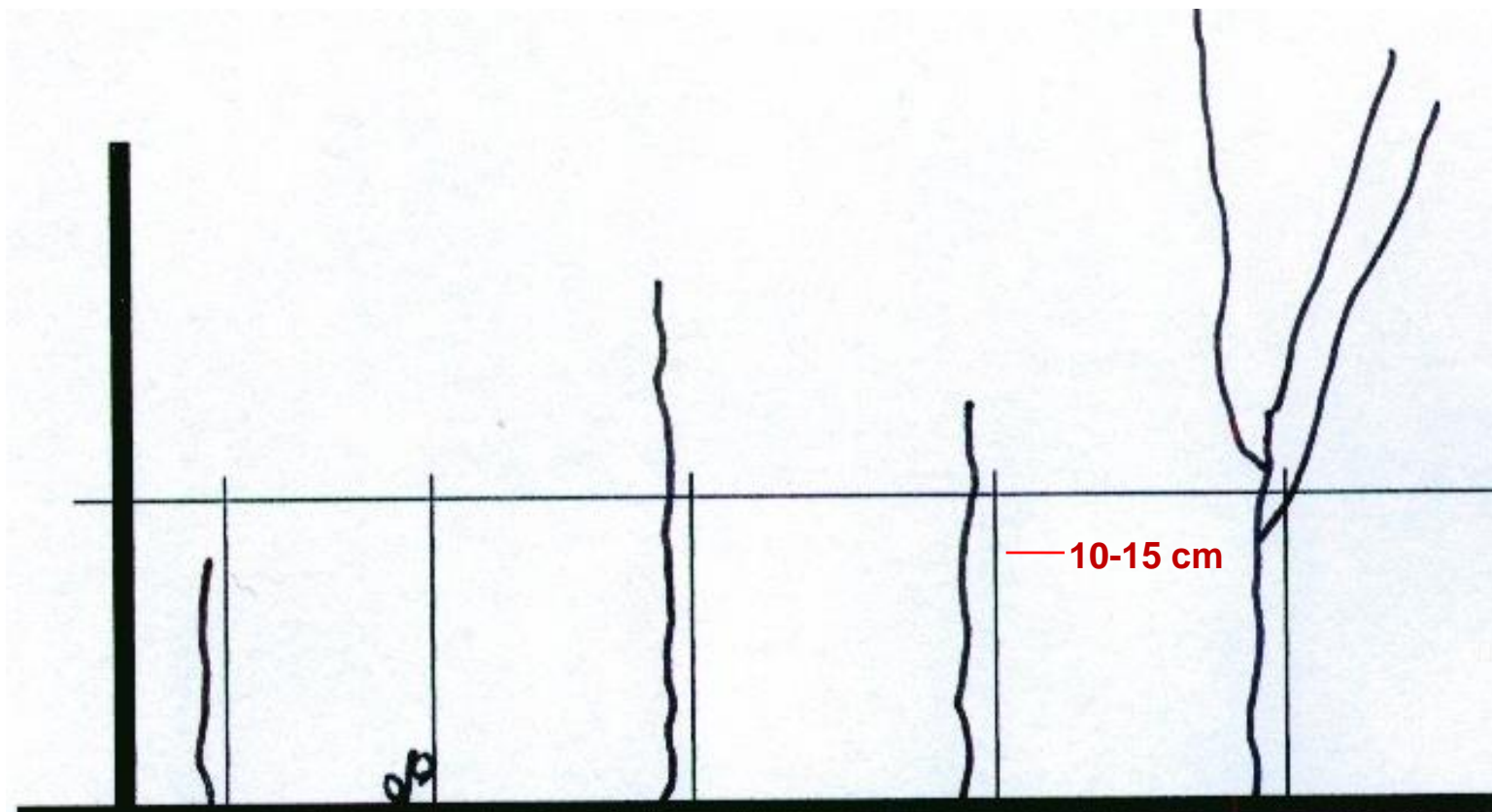




Tie around the wire

Cultivation of trunk (horizontal arched cane)

– trunk did not grow high enough



1. rok

2. rok

10-15 cm

Nepodařilo se
zapěstovat kmínek a
následuje řez na 2 očka

Podářilo se
zapěstovat kmínek a
zakrátí se nad vodicím
drátem









High trunk (reaching the wire) cannot be trained for a horizontal arched cane

In following years – Guyot pruning, every year

- 2-bud renewal spur formed in the previous year
 - Higher growing shoot is kept for a cane (8-12 buds)
 - Lower growing shoot is cut for a 2-bud renewal spur
- No renewal spur
 - Select a suitable cane, remove everything else
 - No renewal spur

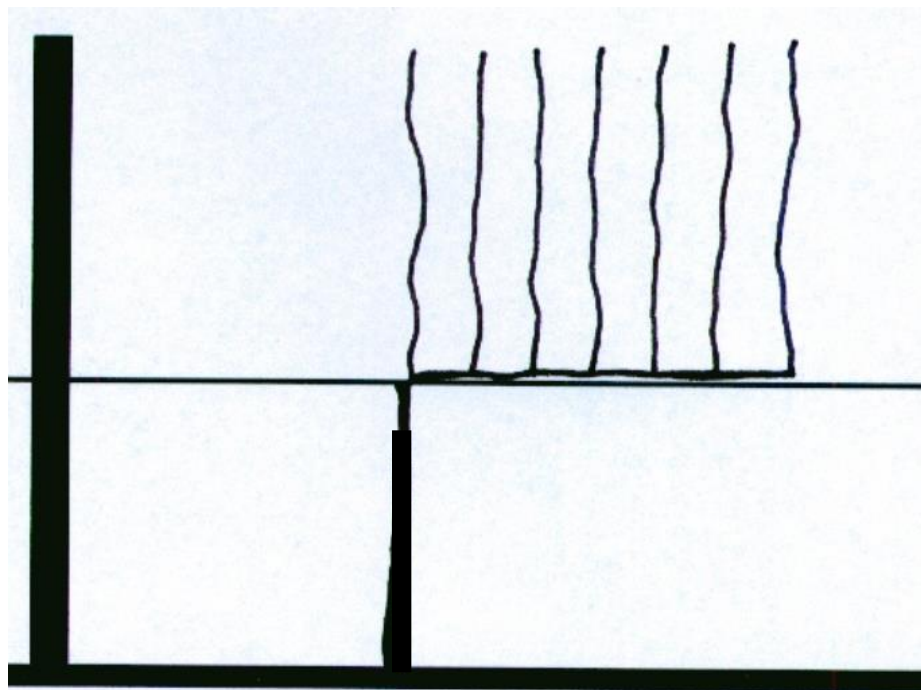


Pruning without renewal spurs, Žabčice



Benefits of a horizontal arched cane

- Each annual shoot on the cane has the same length; therefore all grapes have similar leaf surface area – balanced ripening and homogenous grape quality
- Vine may support 8-12 buds on the horizontal cane and ensure even development



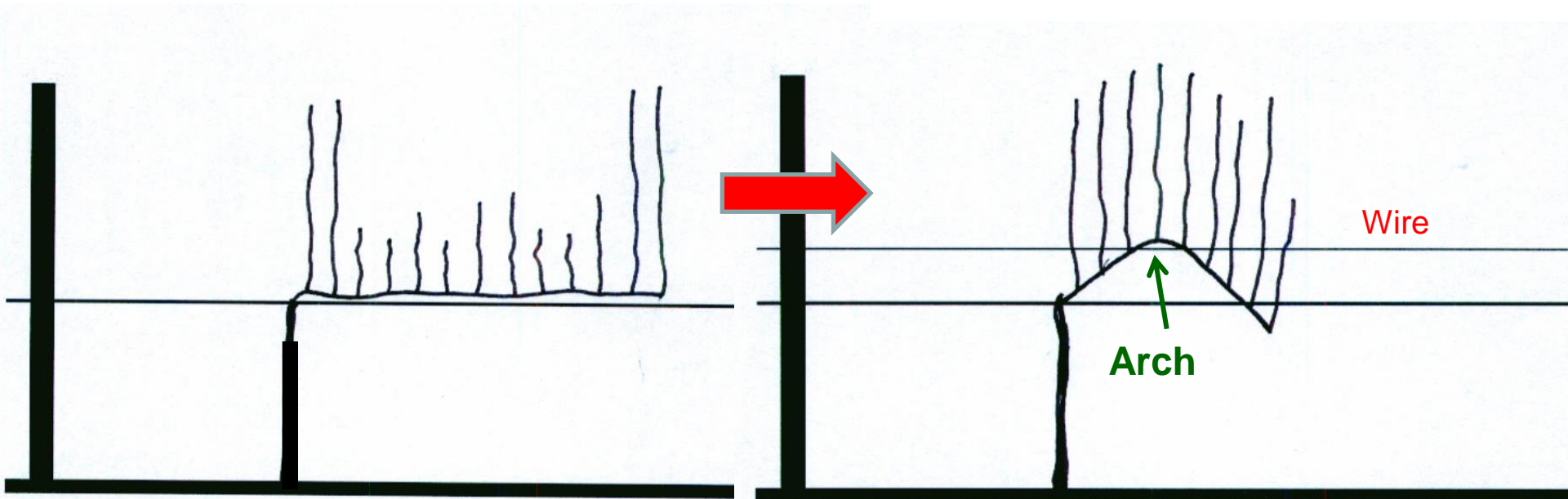
More than 12 buds on a cane: imbalanced growth

Canes must be arched into circles so that apical dominance may prevail in the central part of the cane:

Semi-circular arch

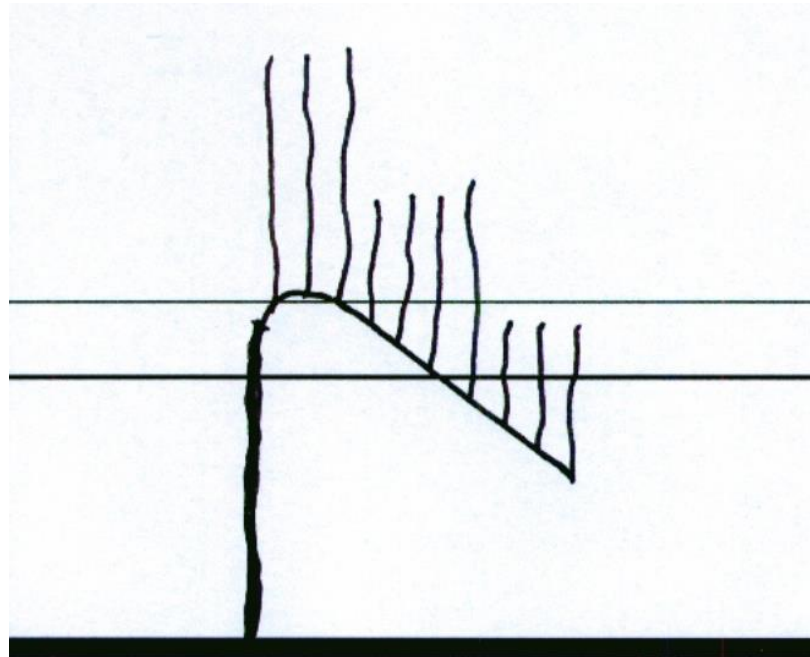
Circular arch

Wire positioned according to the cane arch height



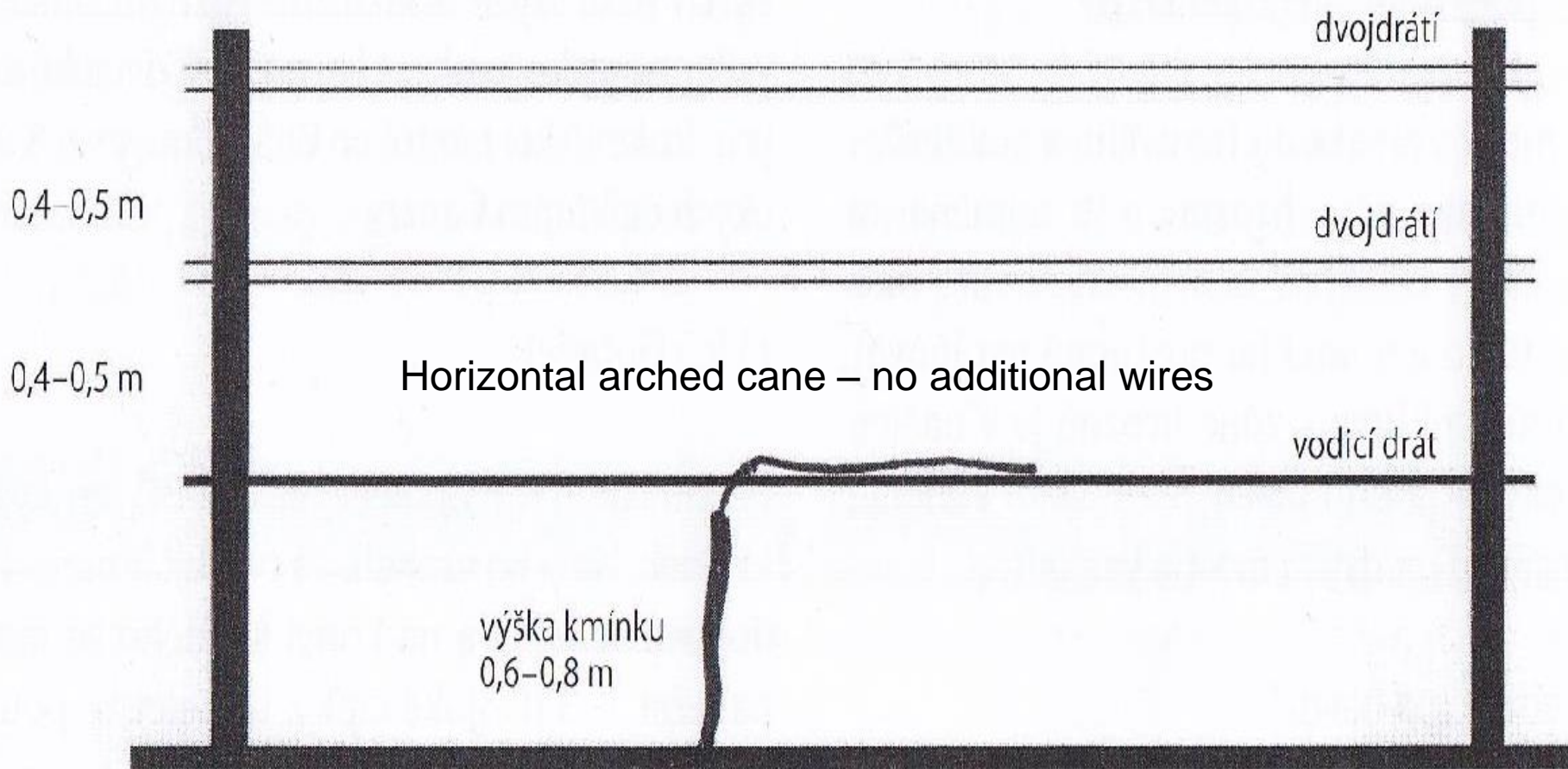
Incorrect tying of the cane

- peak part of the cane is suppressed due to harsh bending
- Arch centre must be in the middle of the cane



Trellis for the Rhine-Hessen training system

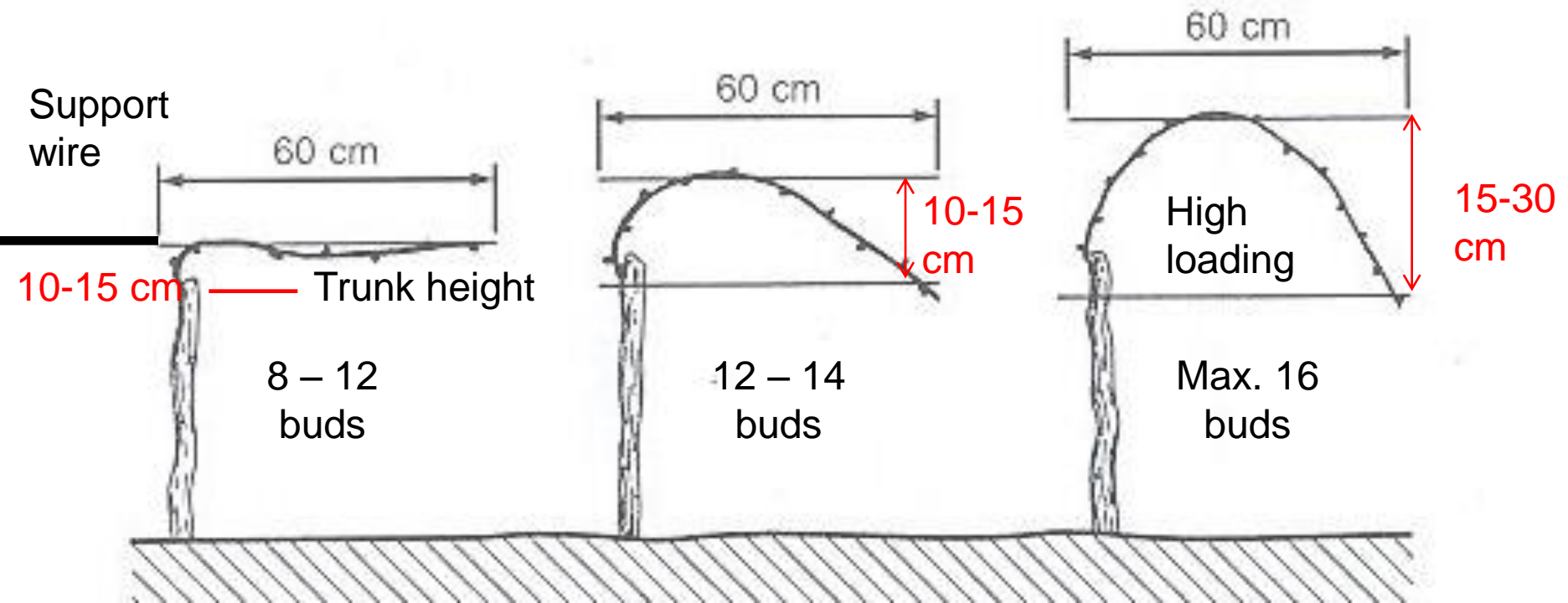
- horizontal arched cane



Techniques of cane training

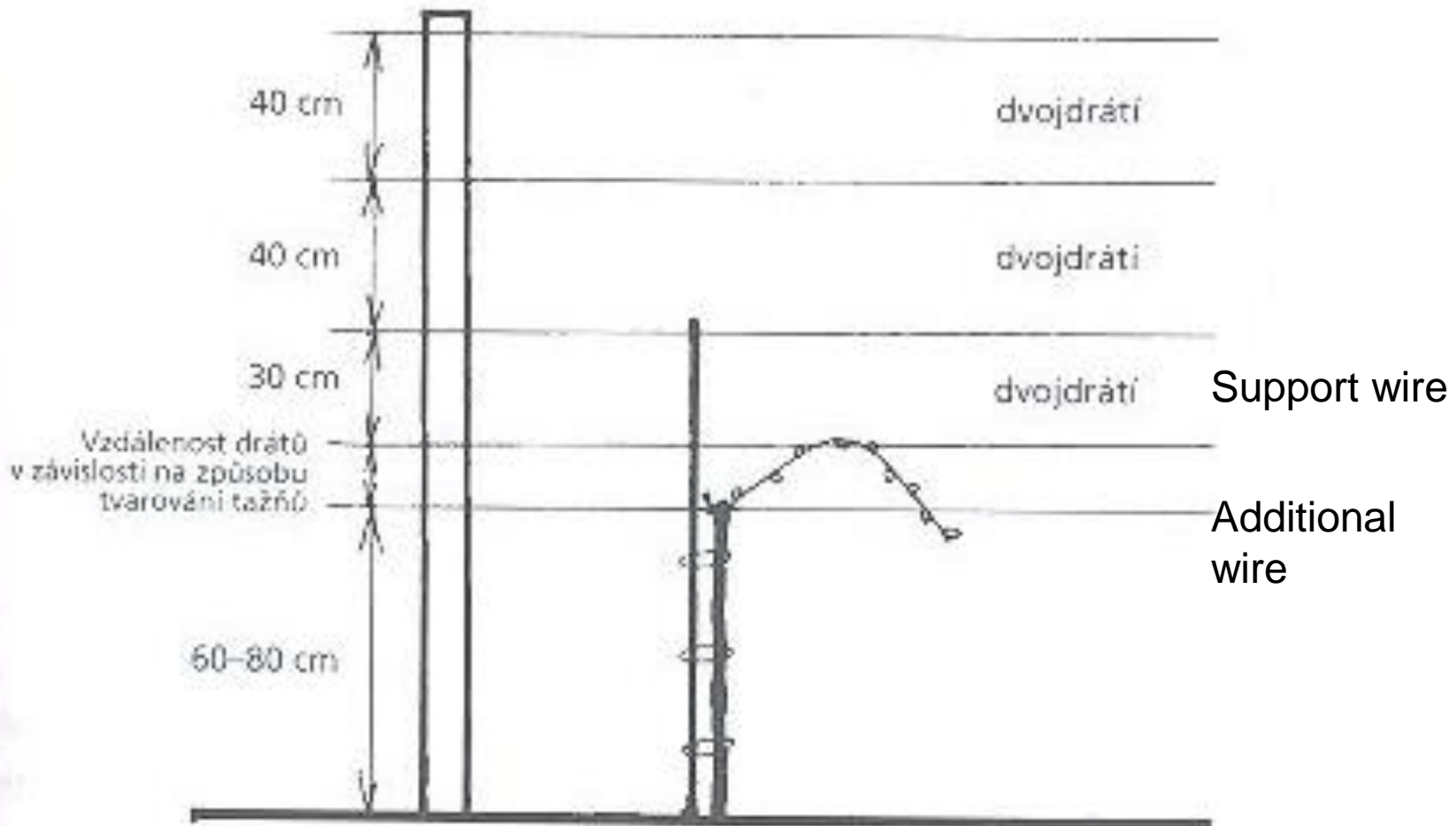
1. Horizontal arched cane
2. Semi-circular arched cane
3. Circular arched cane

Various bending and arching methods affect loading of vine



Trellis for circular arched canes

- Support wire is 0.6-0.8 m high
- Additional wire is 0.25 m above the support wire
- 2-3 double wires, 0.35-0.40 m apart, above the additional wire

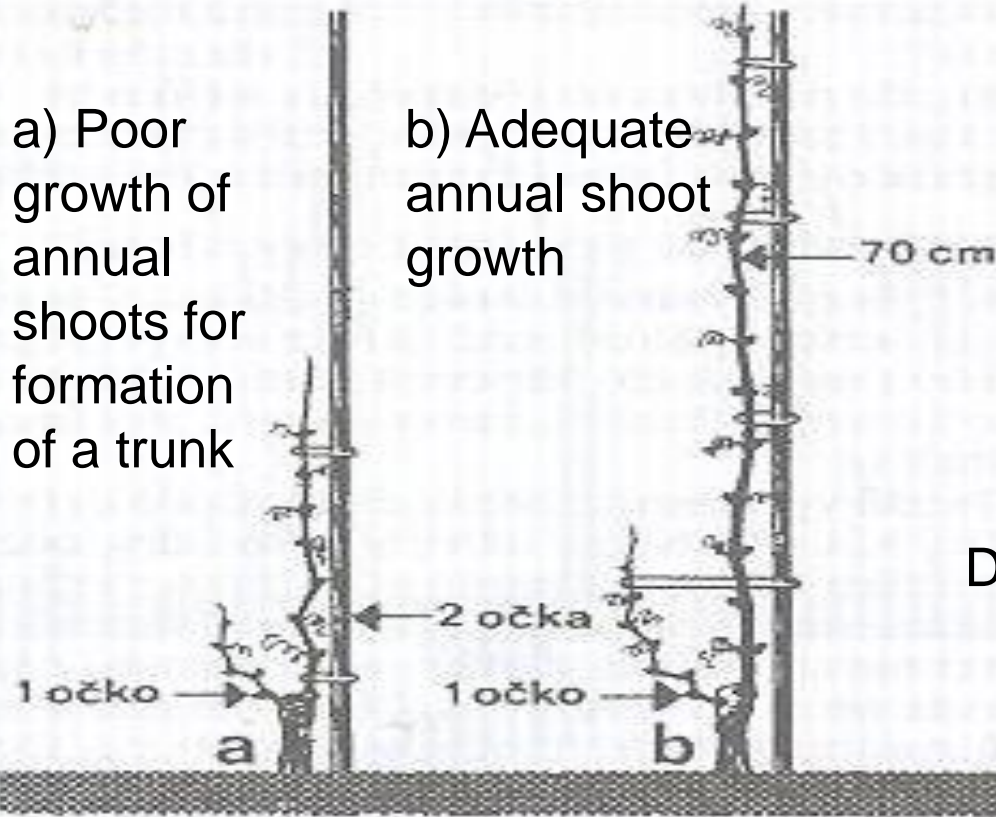


Frost-damage renewal spur

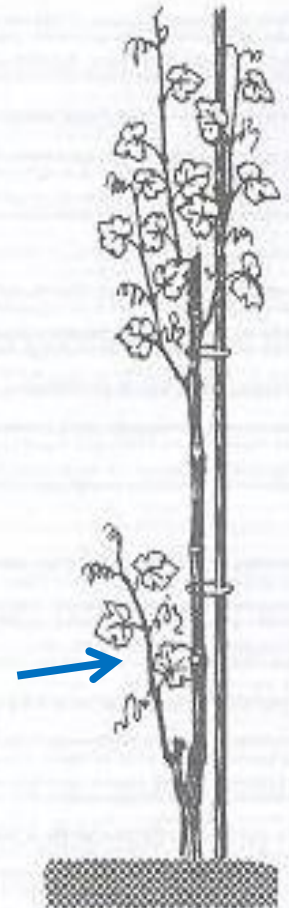
- After planting, keep 2 annual shoots
- Shoot growing from a grafted rootstock is cut to a single bud, this creates a frost-damage renewal bud

a) Poor growth of annual shoots for formation of a trunk

b) Adequate annual shoot growth



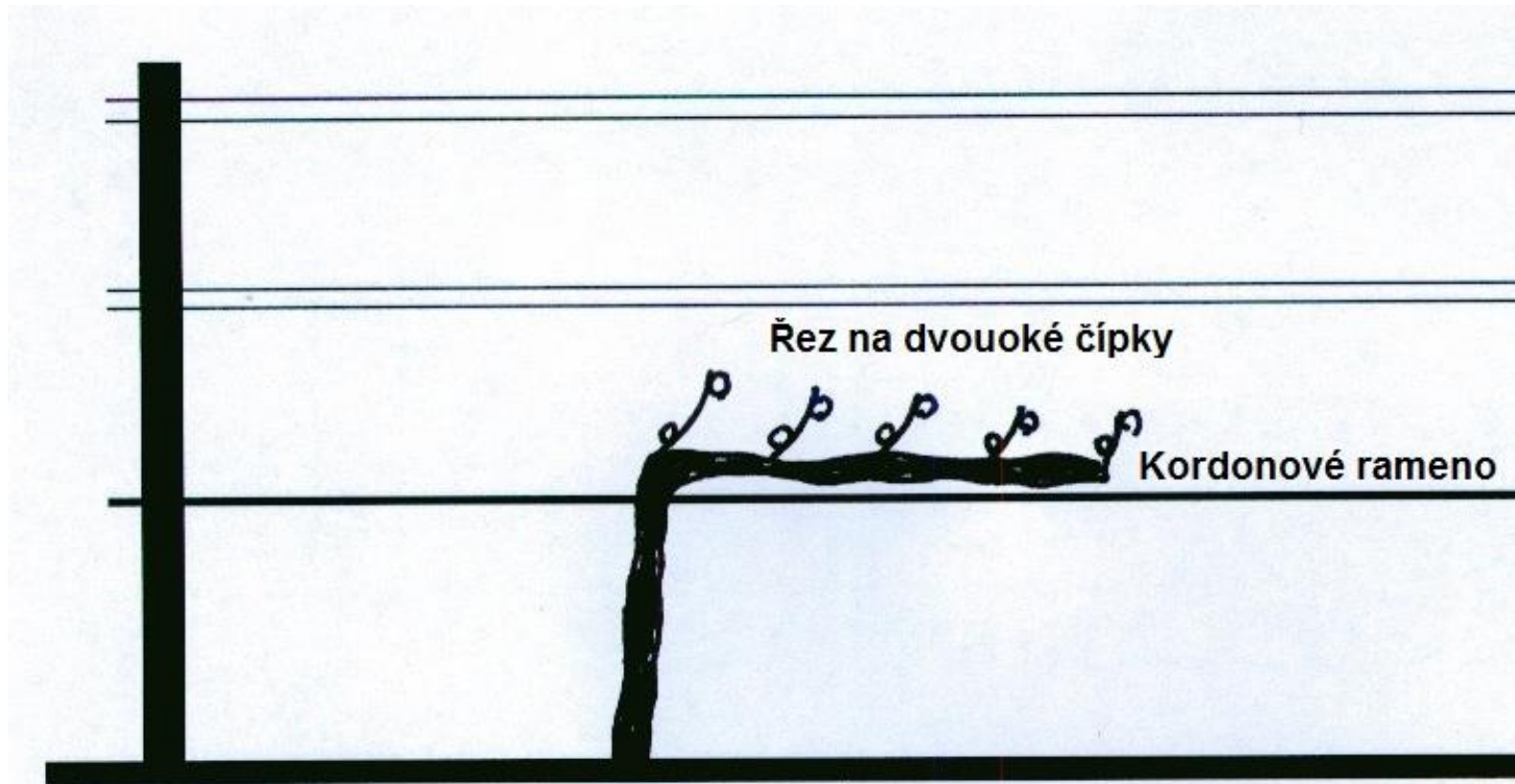
Dormant buds



Modifications to a Rhine-Hessen training system:

- Cordon training system

- After heavy frosts, hail storms - basal buds are the most resilient ones
- Cordon training allows for natural decrease in grape cluster sets, which increases the quality: basal buds generally have lower berry setting and smaller grape clusters, too



- Transition from a cane-pruned system to a spur-pruned training system: Choose a horizontal cane and train it into a cordon

