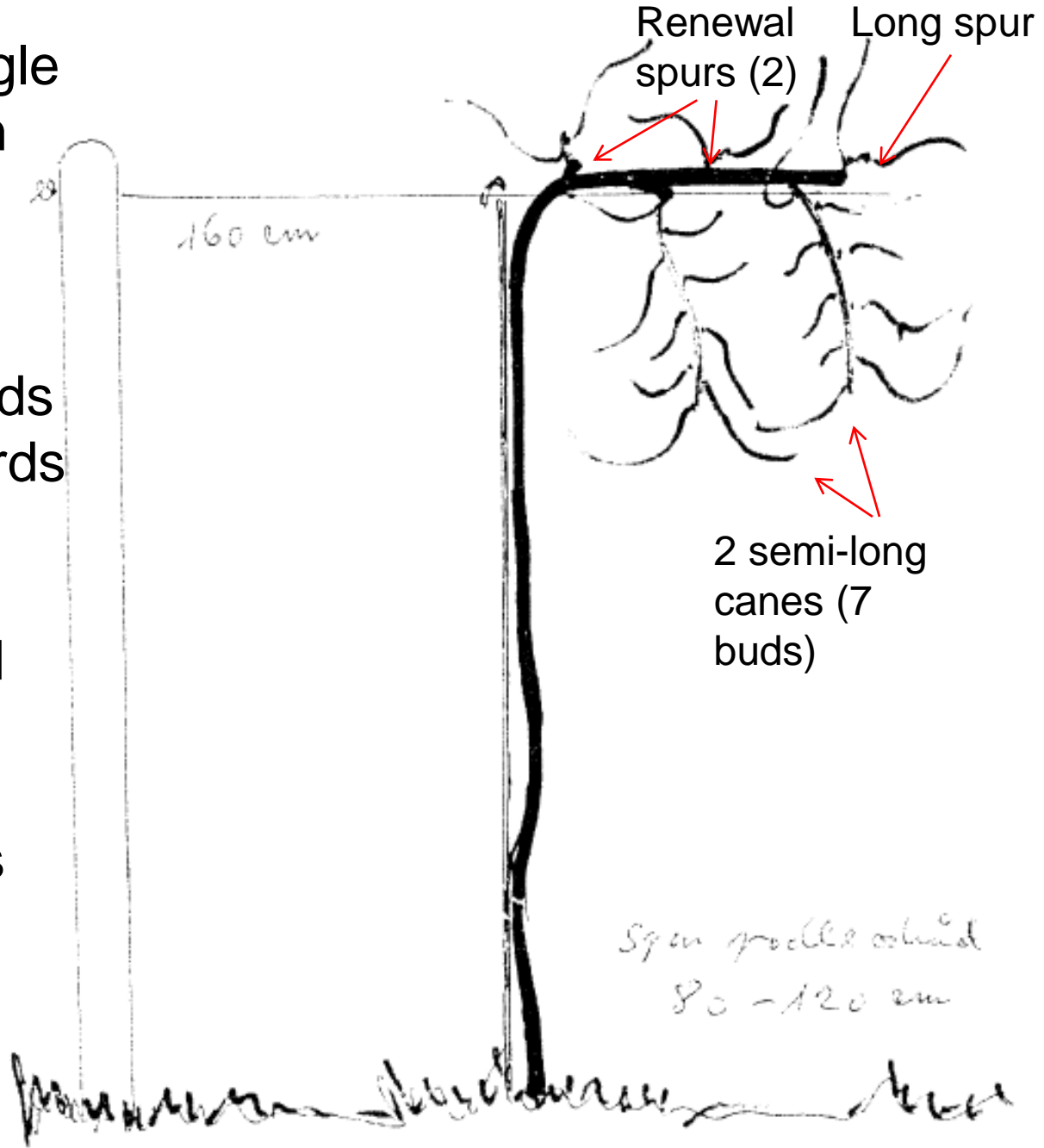
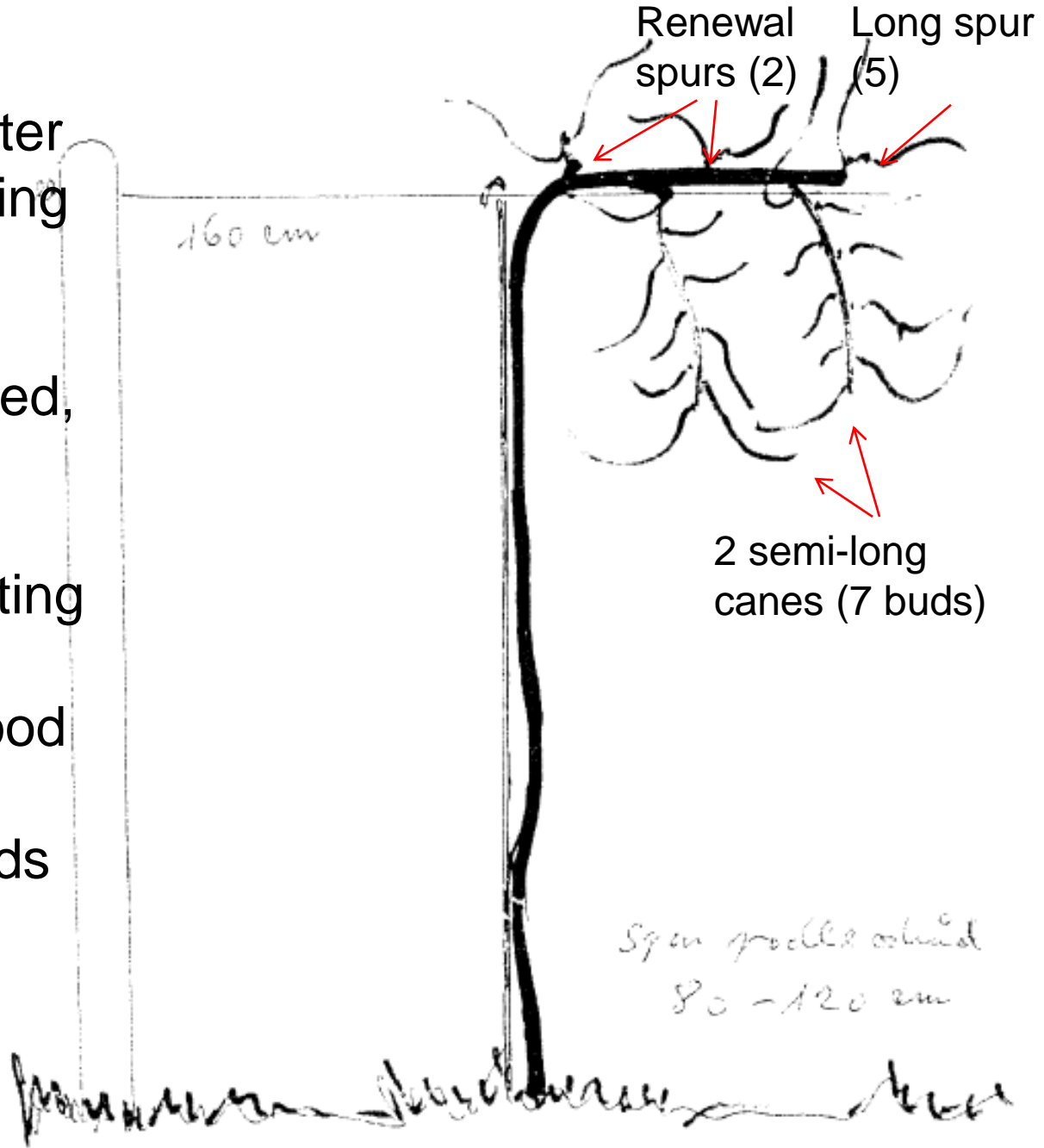


- Established on a single support wire at 1.6 m height
- Cordon bears short spurs and two semi-long canes with 7 buds which hang downwards freely in opposite directions
- Cordon is terminated with a long spur (5 buds) which ensures longer annual shoots and stable cordon length



- Annual shoots hang downwards freely; after blossom loss – hedging (trimming) of annual shoots: shoots are separated and trimmed, vine canopy is thus evenly thick
- Annual shoots sprouting on the trunk must be removed in a soft-wood phase, they cannot lignify - cutting wounds

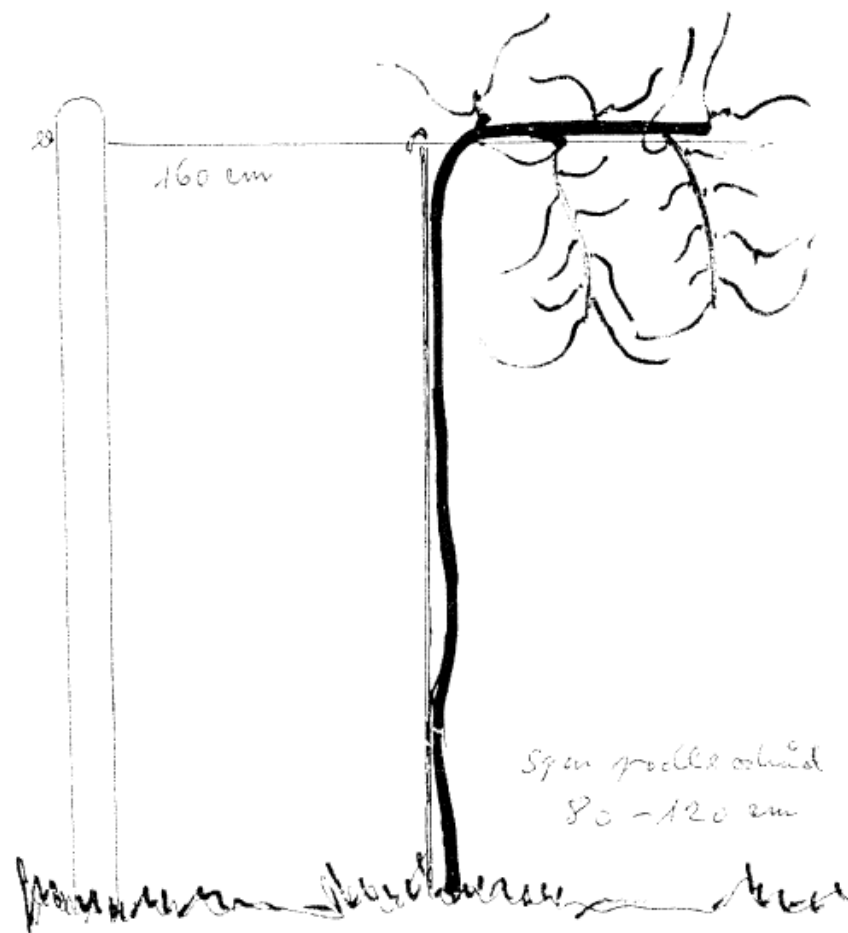


Benefits:

- Little maintenance in summer

Disadvantages:

- High canopy density
- Susceptibility to fungi diseases
- Good for high vigour vines which ripe early (ripening proceeds slowly)
- Higher acid content (good for sparkling wines)





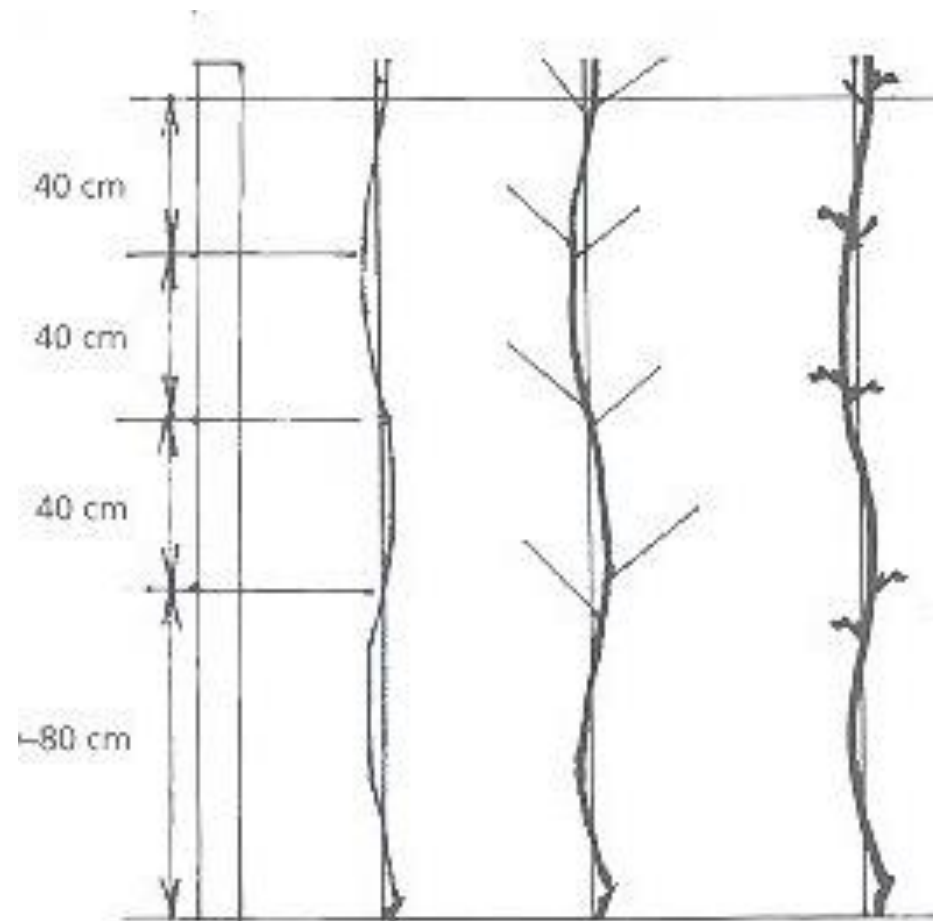


Vertiko training system

- Technique for large-scale cultivation and complex mechanization
- Training: Vertical cordon with short fruiting shoots
- Spacing: 3.0 x 0.8-1.2 m
- Trellis system:
- Stakes
- 2 m above the ground
- 6 m apart
- Two wires stretched at 1.95 m
- Vertical wire (8 mm thick, 2.3 m long) with a hook at the top, 0.3 m deep in soil - support for a trunk



- One shoot is trained up to 2 m high along the vertical wire (max. 1 cutting wound on a trunk)
- Annual shoots are retained starting at 0.8m height (future fruit zones, 4-5)
- Before blooming: Pinch all annual shoots in upper half of the vine, this will increase amount of light penetration in lower tiers, and promote growth of basal buds (repeat two to three times)
- High crop from vertical vine shoots already in the first year



- Following spring: All shoots are shortened to 2-bud spurs
- Training of vertical cordons in year three:
- Mechanical pruning
- Additional manual pruning – leave only 2-bud spurs
- 24-32 buds per vine



Good vine productiveness requires: Good light penetration in lower storeys

Two to three removals of green annual shoots

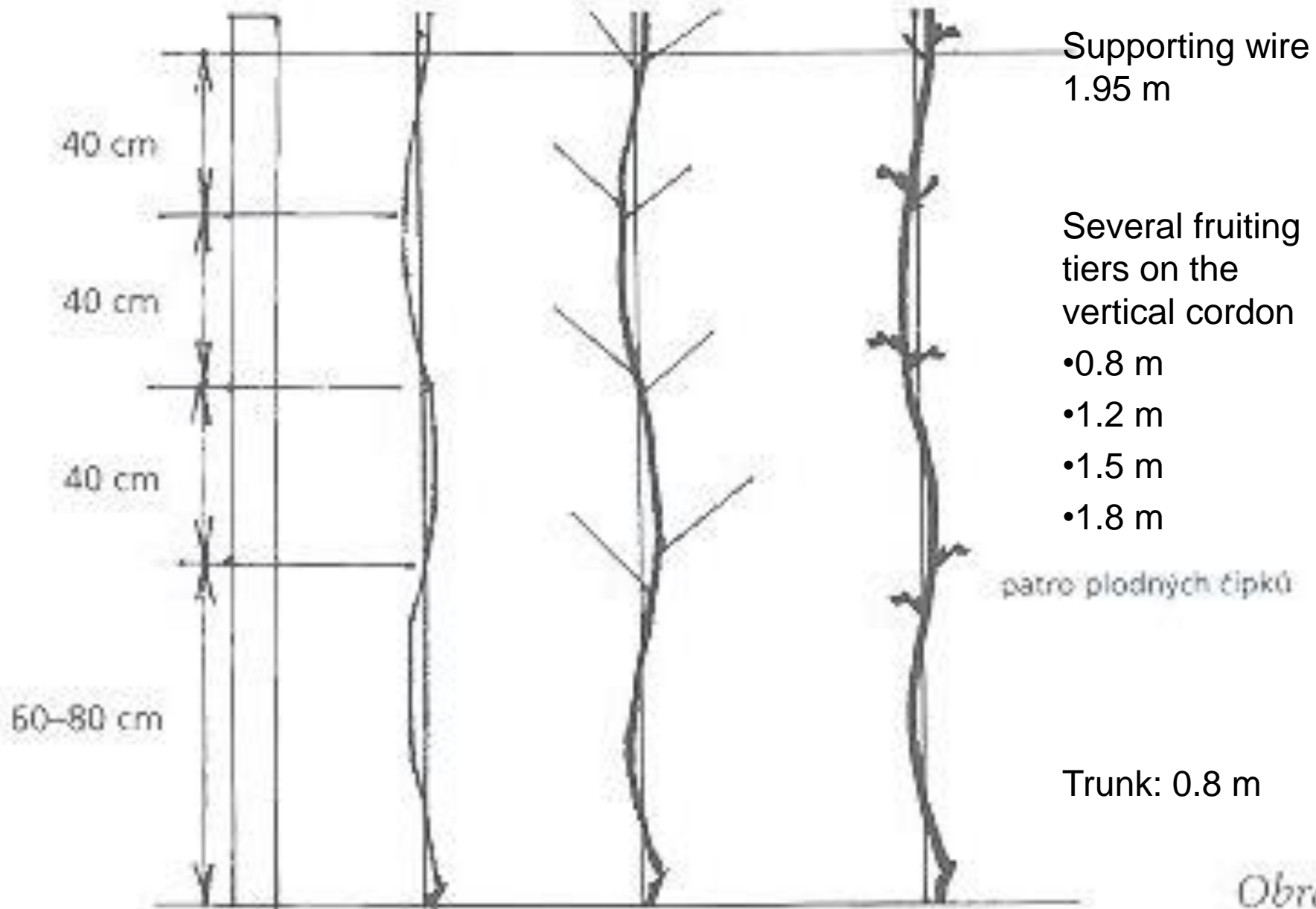
Before blooming and twice after blossom loss

No desuckering and lateral shoot removal

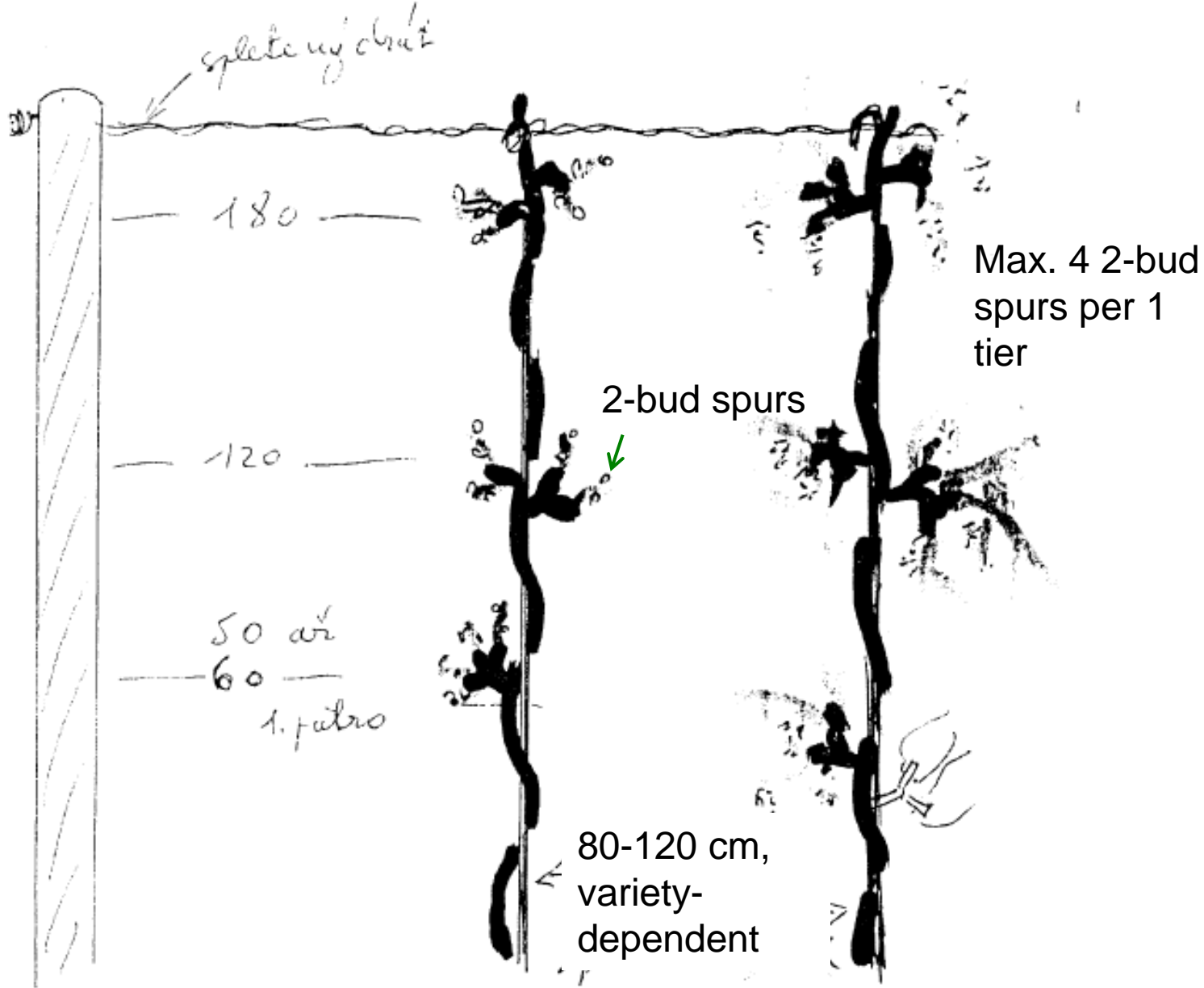
Mechanization for pruning and harvest

Suitable for Pinot blanc and Pinot noir

Spiral training



Vertiko



24-32 buds per vine

na 4 reb



Train the trunk
along the trellis,
better than tying



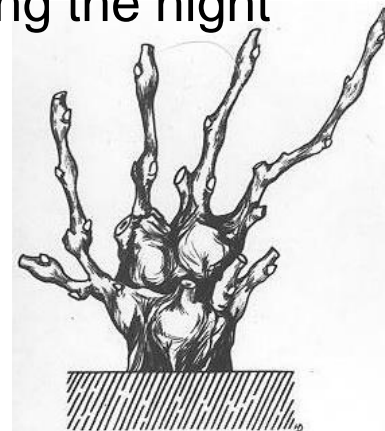




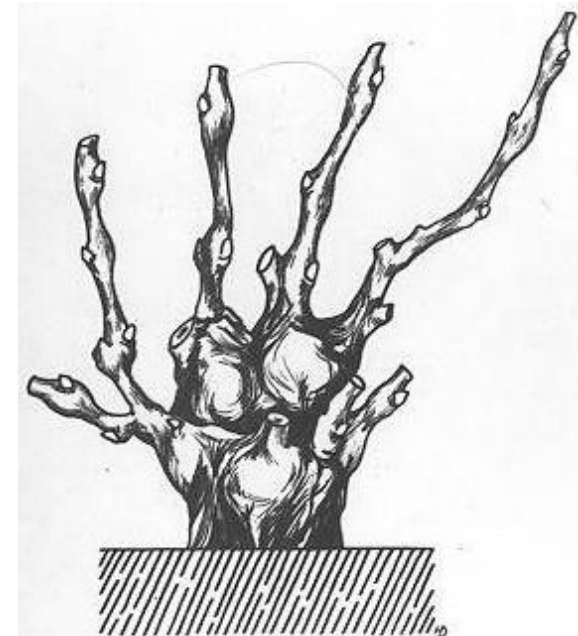


LOW TRAINING SYSTEMS – HEAD TRAINING

- Trunk height: Max. 0.5 m
- Dense row spacing: 1.2-1.8 x 0.8-1.0 m
- Low height, large number of vines (up to 10,000 vines per 1 ha)
- Individual support – annual shoots are tied to a pole
- Spurs grow from two-year old wood
- Benefits:
 - Better microclimate in the soil vicinity (heat)
 - Soil accumulates heat during the day and releases it during the night (good especially for red wine varieties)
 - Better wood maturation and higher grape sugar content

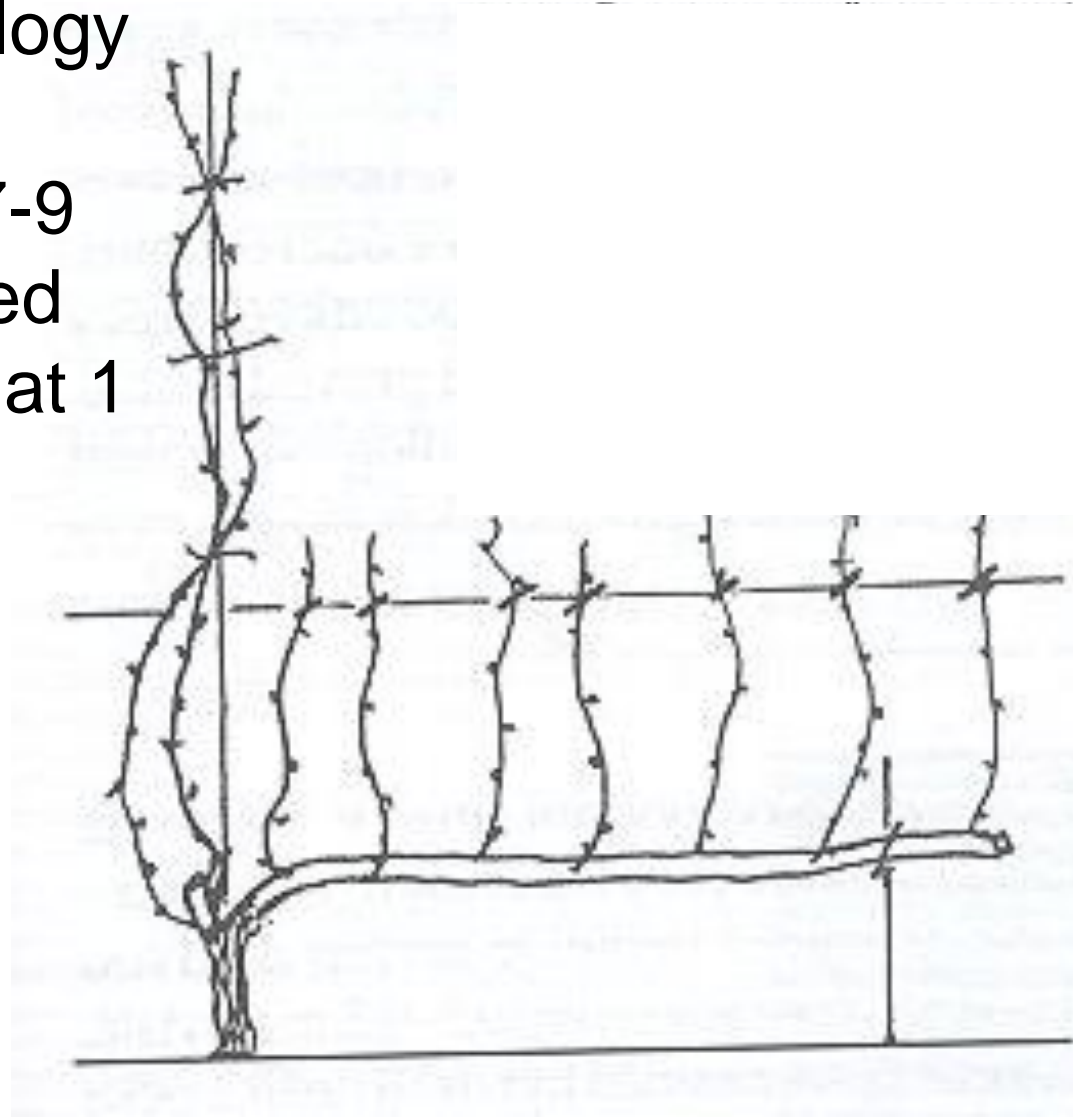


- Disadvantages:
 - Lower frost-damage resistance (lowest temperatures close to the soil surface, vines used to be covered)
 - Susceptible to fungi diseases (vine downy mildew: raindrops spread spores from soil surface onto the vine)
 - More manual labour, limited mechanization
 - Congested annual shoots and lateral shoots
- Today: Only for rootstock cuttings



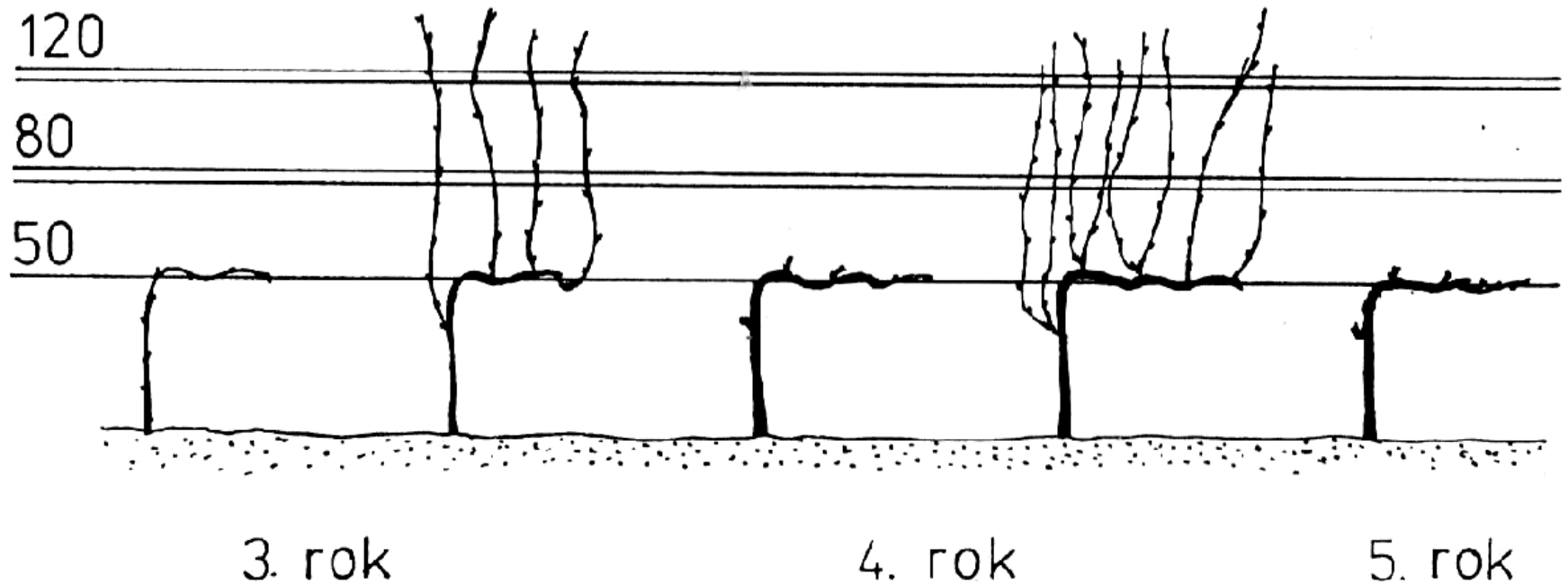
Guyot pruning system

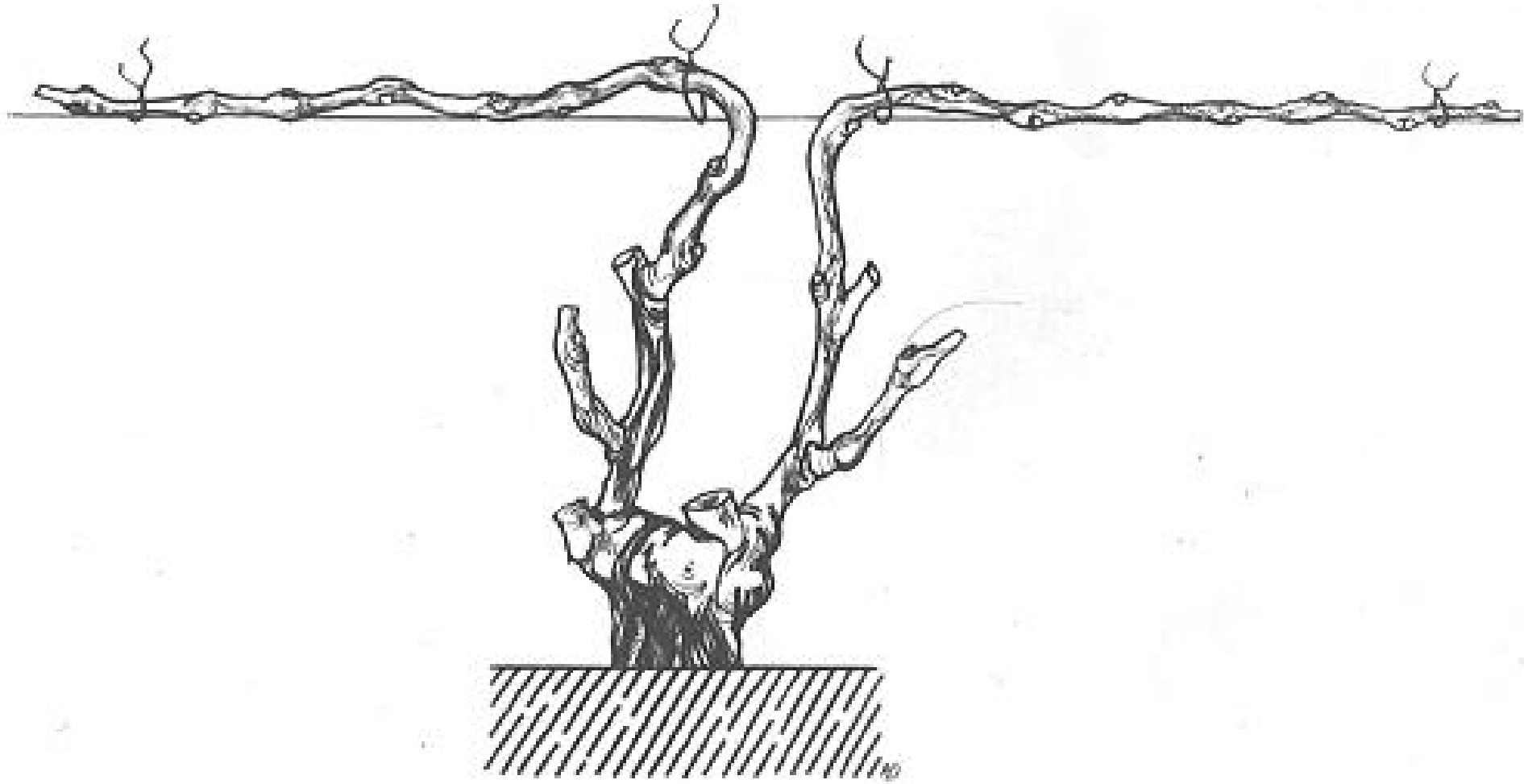
- Basic technique in French wine technology
- Vine is low, 0.25 m
- At the top: 1 cane, 7-9 buds, horizontally tied to the wire; below that 1 renewal spur with 2 buds



Royat cordon training

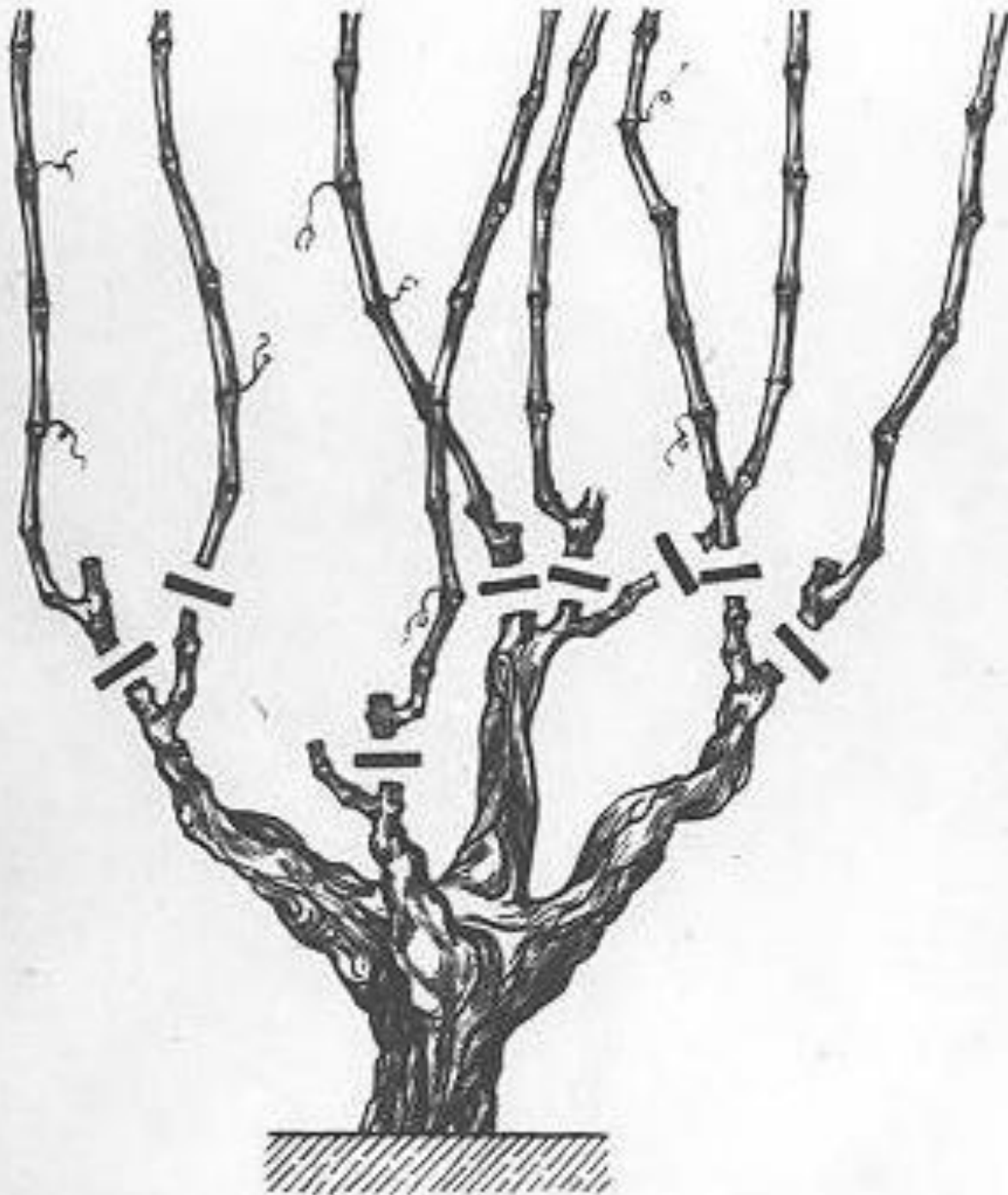
- France: Burgundy, Champagne, Anjou regions
- 50cm trunk, one 80cm cordon or two 40-50cm cordons
- 4-8 2-bud spurs per vine growing on upper side of the cordon (variety-dependent)



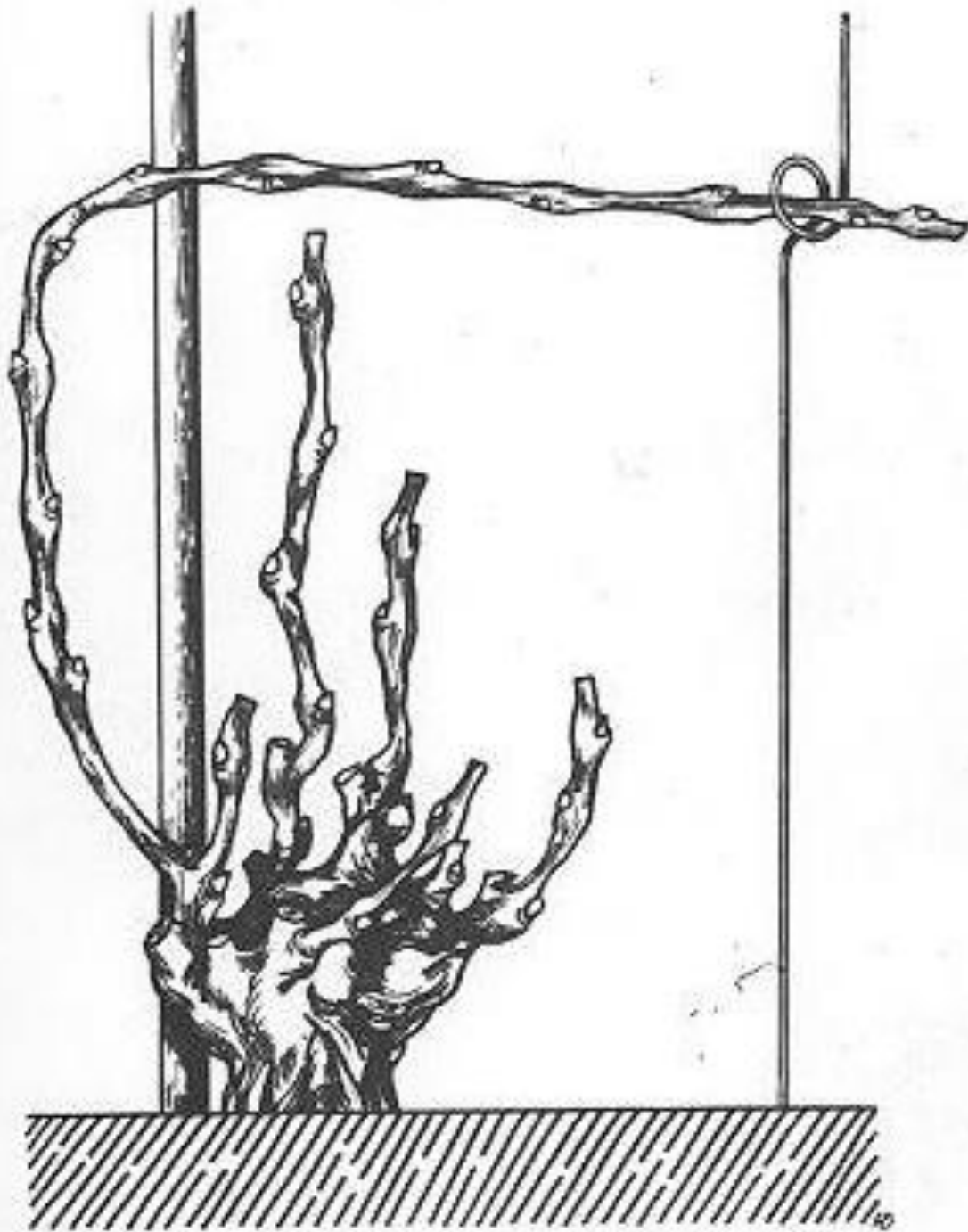


Head training

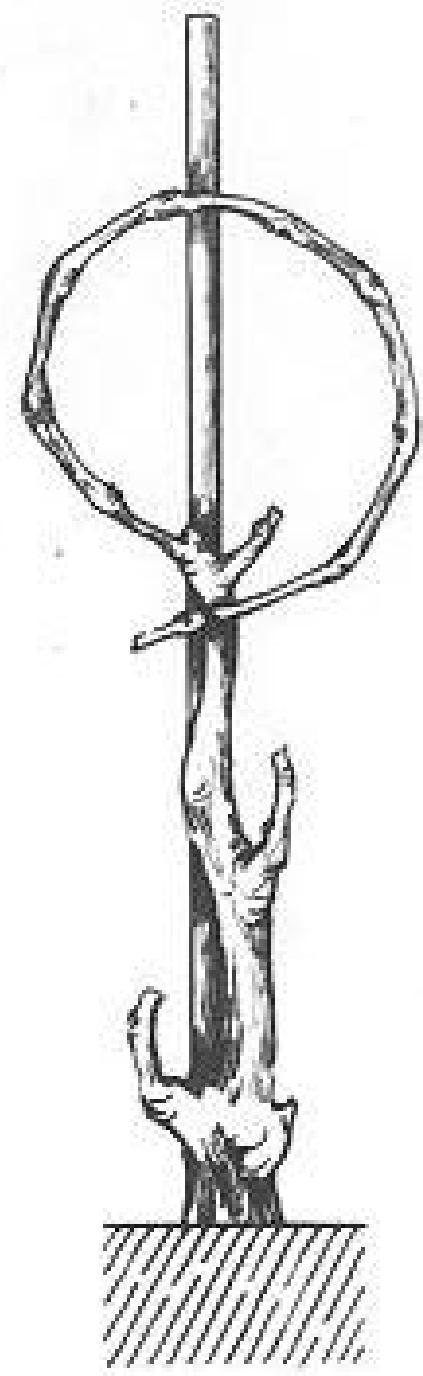
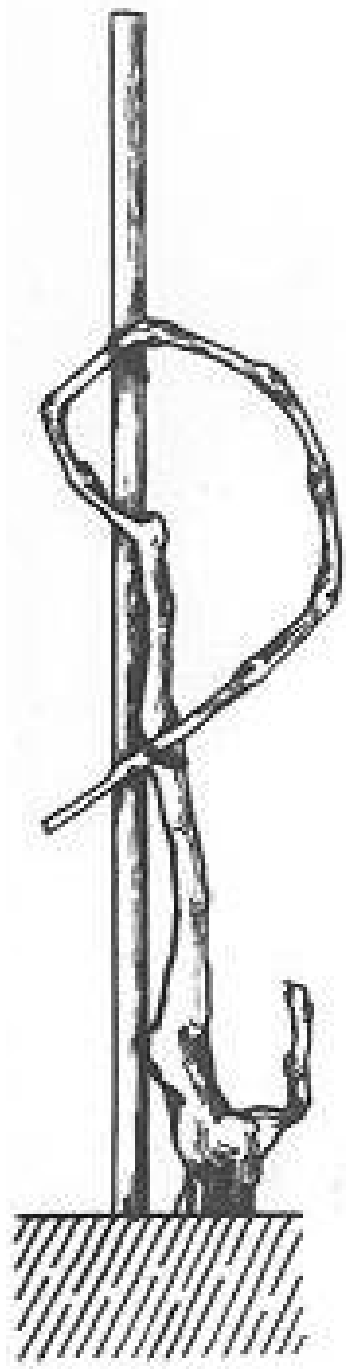
Cane, 2-bud renewal spur

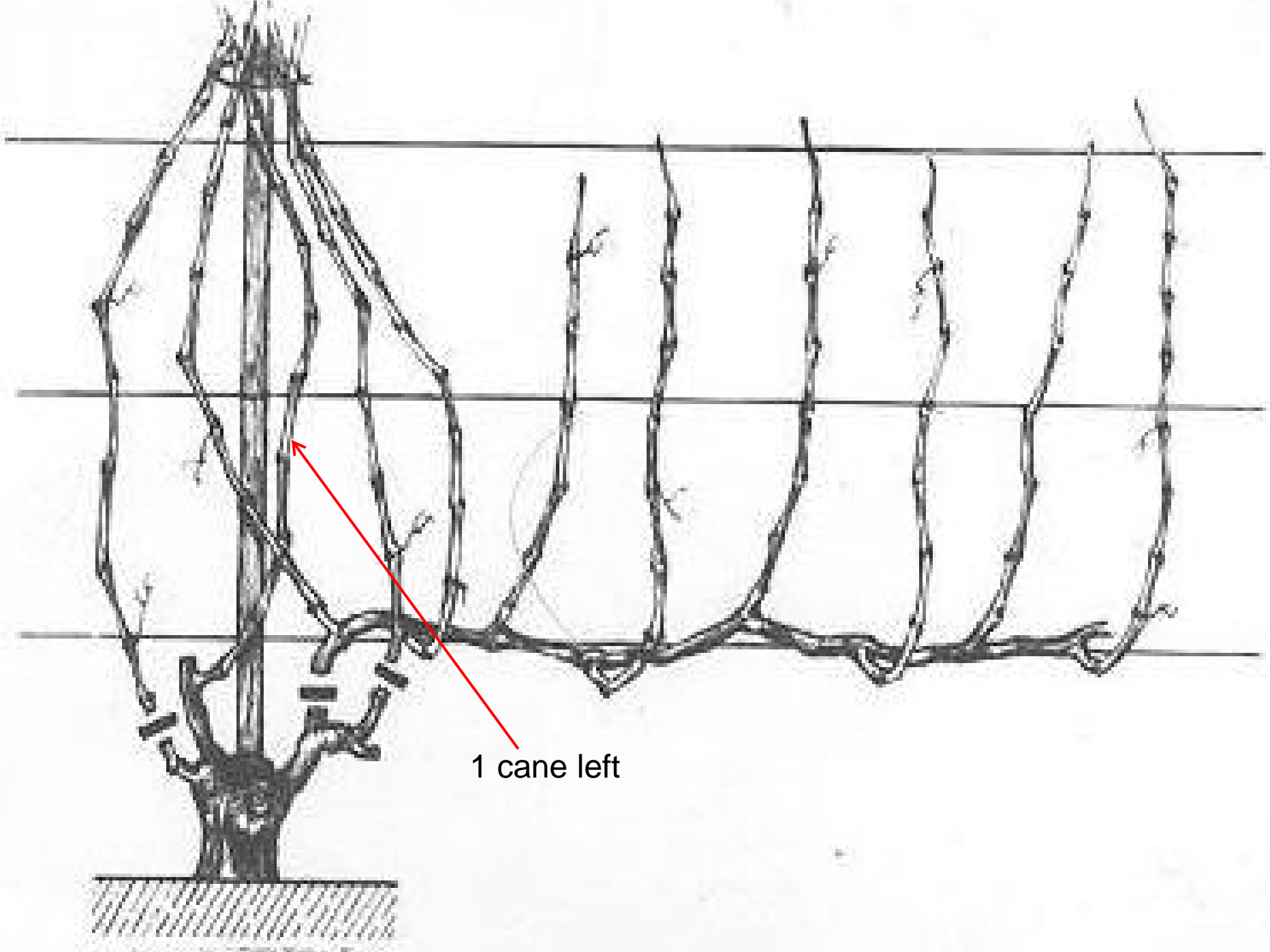


Head training
Spur pruning
Spurs grow from 2-
year old wood

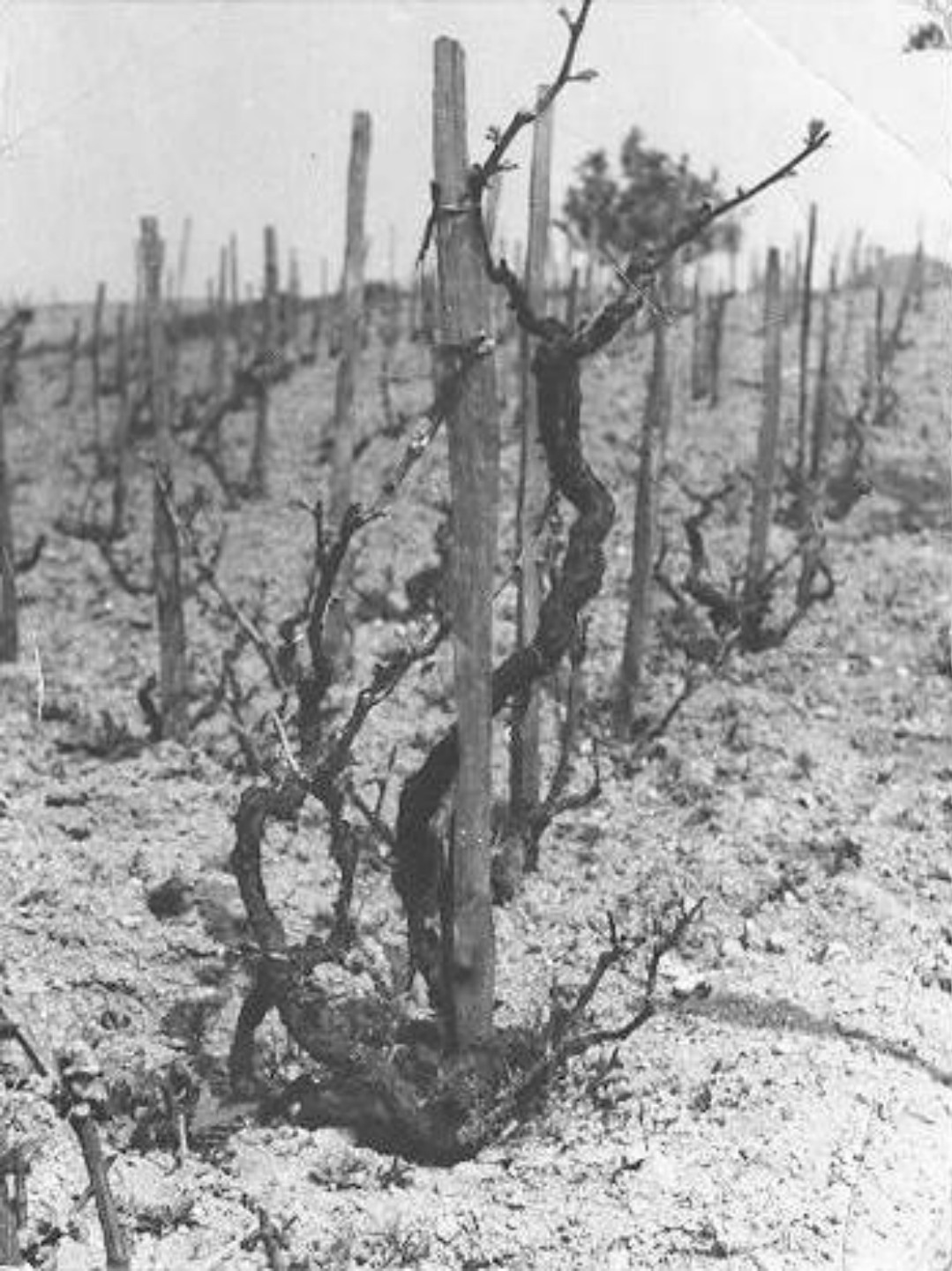


Tying of canes using a loop-bent wire





1 cane left

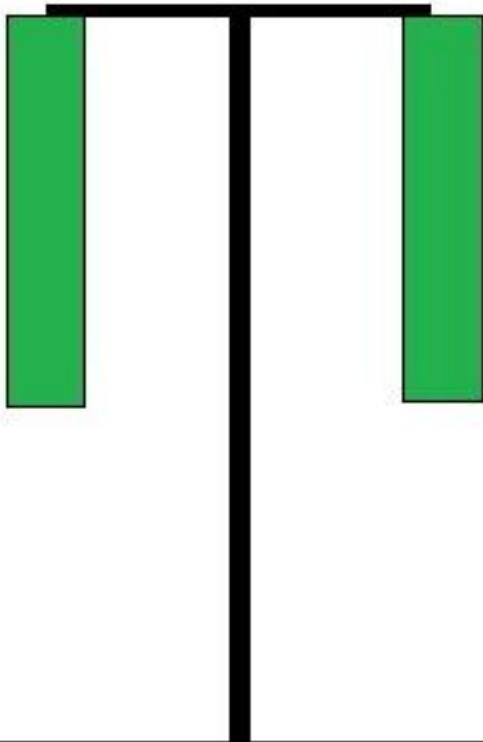


Head training

Gobelet pruning

New vine training systems

GDC - Geneva Double Curtain



Scott-Henry



Lyra

