

Field data (Each questionnaire refers to one crop species cultivated per field)

Municipality : Montecarotto (Ancona)

Latitude : 43.526

Longitude : 13.063



Field Size (ha) 10.22

Crop Species

<input type="checkbox"/> olives	<input checked="" type="checkbox"/> vineyards	<input type="checkbox"/> apples	<input type="checkbox"/> pears
<input type="checkbox"/> peaches	<input type="checkbox"/> apricot	<input type="checkbox"/> nectarine	<input type="checkbox"/> plum
<input type="checkbox"/> cherries	<input type="checkbox"/> oranges	<input type="checkbox"/> tangerines	<input type="checkbox"/> lemons
<input type="checkbox"/> grapefruit	<input type="checkbox"/> hazelnuts	<input type="checkbox"/> chestnuts	<input type="checkbox"/> almonds

Variety of crop Verdicchio

Age of crop 20

Density of crop (trees/ha) 3000

Width between cultivated rows (m) \_\_\_\_\_

Distance between trees (m) 3.1

Crop form

Crop forms for vineyard



Vase



Espalier



Marquee

Crop forms for Olive



Ancient olives



Vase (1 stem)



Vase (2-3 stems from soil)



Bush (intensive 250-600 trees/ha)



Superintensive (>1500 trees/ha)

Crop forms for fruit trees



Natural



Vase



Bush/Globe (very small trees)



Spindle/Pyramid



Palm/Fan



Epsilon transversal

Slope (%)

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Soil Cover



Bare.No grass cover.  
Tillage several times per  
year



Seasonal occurrence.  
Herbicides+mowing <50%  
soil cover



>50% grass cover.  
Mowed several times per  
year



100% Grass cover.  
Mowed several times per  
year

## Crop Yield

Average Crop yield (t/ha) \_\_\_\_\_

Crop yield before measurement (t/ha) \_\_\_\_\_

Amount of product obtained for the year that the pruning measurement is performed in tonnes per hectare

Irrigation  rain fed  partial irrigation  fully irrigated

Intensification degree  organic  low  intermediate  
Specify the amount of fertilizer and pesticides  high

## Pruning Operations Performed (prior to measurement)

Type of pruning  Maintenance  Grafting  
 Structuring  Topping  
 Removal of old branches  Blooming

Pruning Method  Only manually  Mechanised pre-pruning + manual  Fully mechanised

**Pruning Operations**  
Specify the pruning operations that are carried out. Check as many as apply.



Manually shears



Assisted shears



Chainsaw/armchainsaw



pre-pruner:hedge trimmer



pre-pruner:discs



pre-pruning topping

Season of pruning  
Check as many as apply

- |                                    |                                   |                                   |                                   |
|------------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| <input type="checkbox"/> January   | <input type="checkbox"/> February | <input type="checkbox"/> March    | <input type="checkbox"/> April    |
| <input type="checkbox"/> May       | <input type="checkbox"/> June     | <input type="checkbox"/> July     | <input type="checkbox"/> August   |
| <input type="checkbox"/> September | <input type="checkbox"/> October  | <input type="checkbox"/> November | <input type="checkbox"/> December |

Frequency of pruning

- |  |                                   |                                   |   |
|--|-----------------------------------|-----------------------------------|---|
| <input checked="" type="checkbox"/> annual | <input type="checkbox"/> biannual | <input type="checkbox"/> biennial | <input type="checkbox"/> Once per years |
|--|-----------------------------------|-----------------------------------|---|

Was this type of pruning performed as usual ?

- |   |  |  |
|---|--|--|
| <input type="checkbox"/> Yes, it was performed as usual | <input type="checkbox"/> No, less intense than usual | <input type="checkbox"/> No, more intense than usual |
|---|--|--|

Describe the ammount of prunings produced compared to other years

- |                                    |                                    |                               |
|------------------------------------|------------------------------------|-------------------------------|
| <input type="checkbox"/> Much Less | <input type="checkbox"/> Less      | <input type="checkbox"/> Same |
| <input type="checkbox"/> More      | <input type="checkbox"/> Much more |                               |

Reason for different ammount of prunings produced ?

- |  |   |
|--|---|
| <input type="checkbox"/> Pruning Intensity | <input type="checkbox"/> Accumulation of previous years |
| <input type="checkbox"/> Weather           |   |

# Pruning Measurement

Date of Measurement  
(DD/MM/YY)

2006

Mode of measurement

Specify the method used for pruning measurement

Per tree



One or several single trees selected. Biomass per tree collected manually and weighted

Per parcel (e.g. 100m<sup>2</sup>) in bags



One or several parcels selected. Each parcel several trees. Biomass per parcel collected manually and weighted

Per several rows (or in whole field)



On large parcel, or a whole field is selected. Biomass collected and loaded to a truck. Weight of the load taken on a scale for trucks

Amount of prunings obtained (t/ha)

Specify the tonnes per hectare of prunings collected from the crop

2.1

Losses of prunings that weren't harvested (t/ha)

How many days the prunings were on soil before measuring (days)

Moisture content (%)

Specify the moisture content (%) of the biomass collected if available

44

Raffaele Spinelli , Natascia Magagnotti , Carla Nati , Harvesting vineyard pruning residues for energy use, Biosystems engineering 105 (2010) 316–322 Data obtained from EuroPruning Biomass Ratios Database, through the Task 3.1 and Deliverable D3.1 Mapping and analysis of the pruning biomass potential in Europe

