

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

Municipality : Agios Konstantinos

Latitude : 38.757432

Longitude : 22.856209



Field Size (ha) 53.8

Crop Species

<input checked="" type="checkbox"/> olives	<input 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 Amfissis and Kalamon

Age of crop 25+

Density of crop (trees/ha) 85-100

Width between cultivated rows (m) ~10

Distance between trees (m) ~10

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 (%) 0

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) 4.3

Crop yield before measurement (t/ha) 4.3

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

Type of pruning

- | | |
|---|--|
| <input checked="" type="checkbox"/> Maintenance
<input type="checkbox"/> Structuring
<input type="checkbox"/> Removal of old branches | <input type="checkbox"/> Grafting
<input type="checkbox"/> Topping
<input type="checkbox"/> Blooming |
|---|--|

Pruning Method

- | | |
|--|--|
| <input checked="" type="checkbox"/> Only manually

<input type="checkbox"/> Fully mechanised | <input type="checkbox"/> Mechanised pre-pruning + manual |
|--|--|

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

- | | | | |
|------------------------------------|--|---|-----------------------------------|
| <input type="checkbox"/> January | <input checked="" type="checkbox"/> February | <input checked="" 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

- annual
 biannual
 biennial
 Once per years

Mechanized Collection

Preparation of the field prior to harvesting



No preparation - prunings were left on the soil as they fall from tree



Centre-operatos position prunings on the center of the lane between tree rows



Centre aligned-operators position prunings in a specific position in center (e.g. aligned with the direction of the row)
















Previous windrowing-a tractor with windrower is used prior pruning harvester

Integrated windrower to the pruning machine

Harvesting methods

Check according to the figures below the harvesting method that is used for the pruning biomass

	Manual cross-cutting of firewood+gathering at field side	<input type="checkbox"/>
	Forestry chipper towed by tractor + manual feeding	<input type="checkbox"/>
	Hauling the branches + shredding/chipping at field side	<input type="checkbox"/>
	Hauling the branches + baling at field side	<input type="checkbox"/>
	Harvest with mulcher/chipper in front	<input type="checkbox"/>
	Harvest with mulcher/chipper at rear	<input type="checkbox"/>
	Harvest with rear mulcher/chipper and bin	<input checked="" type="checkbox"/>
	Harvest with rear mulcher/chipper and big-bags	<input type="checkbox"/>
	Automotive shredder/chipper with rear trailer	<input type="checkbox"/>
	Harvest with standard hay baler	<input type="checkbox"/>
	Harvest with rear baler prepare for wood or tree branches	<input type="checkbox"/>
	Pre-pruning integrated with collection and mulching/chipping	<input type="checkbox"/>
	Pre-pruning integrated with collection and mulching/chipping in an automotive machine	<input type="checkbox"/>

Type of pruning treatment and model of machinery

Specify the method that prunings are treated based on the outcome product and manufacturer-model of each machinery (windrower,mulcher,chipper,baler) that is used if applicable



Windrower-Machines that align biomass in a row

Windrower (manufacturer-model)

Cesari
RC200



Mulcher-big pieces. Machines that break the branches in big pieces. Normally they are an evolution from the typical mulchers/crunchers utilised to leave the branches on the soil in pieces.

Mulcher (manufacturer-model)



Shredder - Produce finer material (hammers or hammers with a knife.Do not produce a clear cut)

Shredder (manufacturer-model)

FACMA
COMBY
TR200



Chipper - Clean cut. Resembles the typical form of forest woodchips

Chipper (manufacturer-model)



Round bale

Baler (manufacturer-model)



Squared bale

Baler (manufacturer-model)

The values presented on the current data point refer to average values derived from a mechanized harvesting demonstration of olive prunings performed in Agios Konstantinos, Central Greece. The demonstration was performed in April- May 2018 under the frameworks of AGROinLOG H2020 project (<http://agroinlog-h2020.eu/en/home/>, under Grant Agreement No 727961). The harvesting demonstration lasted for 14 days where 232 wet tons or 174 dry tons (25% w/w average moisture content) of prunings were harvested from 53.8 ha of olive groves. More details can be found in the following reference: Michael-Alexandros Kougioumtzis, Emmanouil Karampinis, Panagiotis Grammelis, Emmanuel Kakaras . Exploitation of olive tree prunings. Evaluation of an integrated harvesting demonstration in Central Greece, 27th European Biomass Conference and Exhibition, Lisbon 2019.



Photos

