

Questionnaire for Mechanized Collection Prunings

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

Municipality :	Fuendejalo	on	<u> </u>		
Latitude :	41.763613	1			
Longitude :	-1.384473		<u></u>		
Tarazona Google Map da	Alagón Zaragoz Ur	Zuera			
Field Size (ha)	5				
Crop Species		lives eaches herries rapefruit	vineyards apricot oranges hazelnuts	apples nectarine tangerines chestnuts	pears plum lemons almonds
Variety of crop		Alberquina			
Age of crop		6			
Density of crop (trees/ha)	1800			
Width between cultivated (m)	rows	4.5			
Distance between trees (m)	1.5			

Crop forms for vineyard Espalier Marquee Vase Crop forms for Olive Ancient olives Vase (1 stem) Vase (2-3 Bush stems from soil) (intensive 250-600 trees/ha) **✓** Superintensive (>1500 trees/ha) Crop forms for fruit trees Natural Vase Bush/Globe Spindle/Pyramid (very small trees)

Epsylon transversal

Palm/Fan

Slope (%)	0		
Soil Cover	Bare.No grass cover. Tillage several times per year 100% Grass cover. Mowed several times per year	<50% soil cover	>50% grass cover. Mowed several times per year
		Crop Yield	
Average Crop yield (t/ha)			
Crop yield before measurement (t/ha) Ammount of product obtained to the year that the pruning measurement is performed in to per hectare	for		
Irrigation	rain fed	partial irrig	ation

low

organic

high

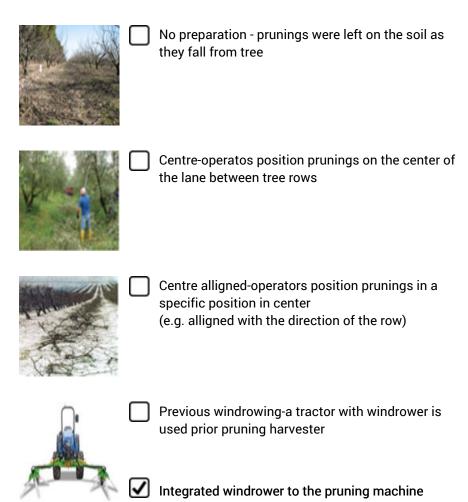
Intensification degree Specify the amount of fertilizer and pesticides **✓** intermediate

Type of pruning	Maintenance Structuring Removal of old branche	Graftin Toppin Bloom	ng
Pruning Method	Only manually Fully mechanised	Mechanised pr manual	e-pruning +
Pruning Operations Specify the pruning operations that are carried out. Check as many as apply.	Manually shears pre-pruner:hedge trimmer	Assisted shears pre-pruner:discs	Chainsaw/ armchainsaw pre-pruning topping
Season of pruning	May .	February June October March July Novem	April August December
Frequency of pruning	annual bia	annual Diennial	Once per years

Pruning Operations Performed

Mechanized Collection

Preparation of the field prior to harvesting



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	
	Forestry chipper towed by tractor + manual feeding	
+	Hauling the branches + shredding/chipping at field side	
+	Hauling the branches + baling at field side	
	Harvest with mulcher/chipper in front	
	Harvest with mulcher/chipper at rear	
₹	Harvest with rear mulcher/chipper and bin	
	Harvest with rear mulcher/chipper and big-bags	
Here the second	Automotive shredder/chipper with rear trailer	
	Harvest with standard hay baler	
	Harvest with rear baler prepare for wood or tree branches	✓
	Pre-pruning integrated with collection and mulching/chipping	
2000	Pre-pruning integrated with collection and mulching/chipping in an automotive machine	

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 allign biomass in a r Windrower (manufacturer-model)	ow
Mulcher-big pieces. Machines that break the beautiful they are an evolution from the typical utilised to leave the branches on the soil in pieces. Mulcher (manufacturer-model)	al muchers/cruchers
Shredder - Produce finer material (hammers or knive.Do not produce a clear cut)	hammers with a
Shredder (manufacturer-model)	
Chipper - Clean cut. Resembles the typical	l form of forest woodchip
Chipper (manufacturer-model)	
✓ Round bale	
Baler (manufacturer-model)	PIMR (Poland) - Model PRB 1,75 baler
Squared bale	
Baler (manufacturer-model)	

Processes Specifications Specify the specifications of the processes (manpower,gross working	Processes	Manpower (Nr of persons)	Gross working time (hr/ha)	Productivity (t/ha or t/hr)	Fuel consumption (l/hr)
time, productivity, fuel consumption)	Manual Alignment				
Check as many as apply	Windrowing				
_	Integrated harvesting/treatment	1	2.1	1.0 t/h	9.3
_	Hauling				
_	Treatment at field side				
_	Disposal/dumping of biomass	O			
End product properties	Moisture (% a.r.)	32	Particle siz	e (cm)	bale
Specify the properties (moisture,bulk density,particle size,ash) of the prunings after treatment and harvesting, if know	Bulk density (kg/m	n3) <u>138</u>	Ash conten	nt (% dry basis) -	
Losses of biomass after harvesting	(%)	6.4 or (to	nnes/ha)		
Problems encountered due to t field Problems encountered by the machines	Stones	for the pruning		nuch grass uvering	
	Unsuitable fe difficult to be conv	eding system (bioma veyed)	ss Too m biomass to	nuch soil particle be treated	es with the
	Problems in o The prototype by several malfund	e was damaged in pre	evious demos. Its c	operation was ve	ery hindered
Performance of the machinery	The machine	ry was performing bet ry was performing not ry was underperformi	rmally-typical expe	ected	
		Value Chains			
Indicate if your experience is ba an isolated test or if it based or existing value chain:	3 an -	erience is just an expe		-	

Name :	Daniel García Galindo
Email :	
Phone :	
Profession :	
Country:	Spain

Contact Data

References-External links:Provide references on which the information is based on or highlight any comments

The prunings were collected from a total field area of 2.5 ha. EuroPruning Deliverable D6.2, CIRCE, 2016. Results with conclusions of each demor www.europruning.eu













