

Distance between trees (m)

Questionnaire for Mechanized Collection Prunings

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

Municipality:	valencia			
Latitude :	39.489206			
Longitude :	-0.682661			
Requena Google Map data ©201	Valencia O Torrent Alzira • E-15 7 Google, Inst. Geogr. Nacio	onal		
Field Size (ha)	500			
Crop Species	olives peaches cherries grapefruit	vineyards apricot oranges hazelnuts	apples nectarine tangerines chestnuts	pears plum lemons almonds
Variety of crop			_	
Age of crop	25		_	
Density of crop (trees/ha)			_	
Width between cultivated (m)	rows 10		_	

Crop forms for vineyard				THE PARTY OF THE P
	Vase	Espalier	Ma	arquee
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 (very small trees)	Spindle/Pyramid

Epsylon transversal

Palm/Fan

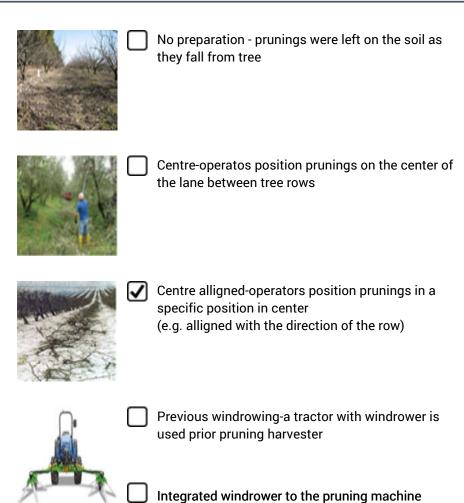
Slope (%)	1		
Soil Cover	Bare.No grass cover. Tillage several times per year 100% Grass cover. Mowed several times per year	Herbicides+mowing <50% soil cover	>50% grass cover. Mowed several times per year
		Crop Yield	
Average Crop yield (t/ha)			
Crop yield before measurement (t/ha) Ammount of product obtained the year that the pruning measurement is performed in to per hectare	for		
Irrigation	rain fed	partial irrigat	ion 🚺 fully irrigated
Intensification degree Specify the amount of fertilizer pesticides	and organic high	low	intermediate

Type of pruning	Maintenance Structuring Removal of old brai	Graftin Toppin	g
Pruning Method	Only manually Fully mechanised	Mechanised promanual	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	January May September	February March June July October Novemb	April August December
Frequency of pruning	annual	biannual biennial	Once per years

Pruning Operations Performed

Mechanized Collection

Preparation of the field	l 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	
A CONTRACTOR OF THE PARTY OF TH	Automotive shredder/chipper with rear trailer	
5-6	Harvest with standard hay baler	
	Harvest with rear baler prepare for wood or tree branches	
	Pre-pruning integrated with collection and mulching/chipping	
	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 ro- Windrower (manufacturer-model)	ow
	Mulcher-big pieces. Machines that break the bear Normally they are an evolution from the typical utilised to leave the branches on the soil in pieces. Mulcher (manufacturer-model)	I 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	form of forest woodchips
	Chipper (manufacturer-model)	Berti Picker C180
	Round bale	
	Baler (manufacturer-model)	
A STATE OF	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 (I/hr)
time, productivity, fuel consumption)	Manual Alignment				
Check as many as apply	Windrowing				_
	Integrated harvesting/treatment	✓	1.03	1.62 t/ha	
_	Hauling				
_	Treatment at field side				
_	Disposal/dumping of biomass				
End product properties Specify the properties (moisture,bulk density,particle size,ash) of the prunings after treatment and harvesting, if know	Moisture (% a.r.) Bulk density (kg/	m3) <u>0.61</u>	Particle siz Ash conten	e (cm) t (% dry basis)	
Losses of biomass after harvesting	(%)	6 or (tor	nnes/ha)		
Problems encountered due to t	he Soil uneven		Slope Too m	uch grass	
Problems encountered by the machines		for the pruning eeding system (bioma:	_	uvering uuch soil particles	with the
	difficult to be cor		biomass to	be treated	
	Problems in	discharge			
Performance of the machinery	The machine	ery was performing bet ery was performing not ery was underperformit	rmally-typical expe	ected	
		Value Chains			
Indicate if your experience is based on an isolated test or if based on an existing value cha	t My experien	ce is just an experimer		/ test	

Name :	Velazquez-Martı
Email :	borvemar@dmta.upv.es
Phone :	
Profession :	Academic
Country :	Spain

Contact Data

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

Analysis of the process of biomass harvesting with collectingchippers fed by pick up headers in plantations of olive trees

B. Velazquez-Martı, E. Fernandez-Gonzalez

