

Crop information draft - Warren Jones

Crop type	Dependence on honeybees %	Stocking rate Hives per ha	Yield boost %	Comments	Pollination timing	Location
TREE						
Almond (nut)	100	3 to 5	100		5wks, 1stWkJuly-1stWk August	VIC, NSW, SA
Apple (fruit)	100	4 to 12.5	100		August-September	VIC, NSW, TAS
Apricot (fruit)	70	2 to 5	100		2nd wk September	VIC, NSW, SA
Avocado (fruit)	100	5 to 8	100		2nd wk September	NSW,QLD
Macadamia (nut)	100	5 to 7.5	100		2nd wk September	NSW,QLD
Citrus (fruit)	30 - 80	1 to 2		"Citrus" honey bees improve general fruit size & shape; also under drought conditions cross-pollinated fruit will hold longer than self-pollinated	2nd wk September	VIC, NSW, SA, QLD
Lemon & Lime (fruit)	20	1 to 2			August-September	VIC, NSW, SA, QLD
Grapefruit (fruit)	80	1 to 2			August-September	NSW,QLD
Mandarin (fruit)	30	1 to 2				VIC, NSW
Nectarine (fruit)	60	3	100		August-September	VIC, NSW
Orange (fruit)	30	1 to 2	30		September-October	VIC, NSW,
Papaya (fruit)	20		20		Tropical	Tropical and Glasshouse
Peach (fruit)	60	2 to 4	60		August-September	VIC, NSW
Pear (fruit)	50 - 100	2.5 - 5	50 - 100		August-September	VIC, NSW
Plum & Prune (fruit)	70	2.5 - 8	70		August-September	VIC, NSW
Mango (fruit)	90	8 to 15	90		November on. Tropical,seasonal	QLD, NT, N/NSW
Cherries (fruit)	90	2 to 5	90		August-September	VIC, NSW
VINE CROPS						
Kiwi (fruit)	100	8	100	) Honey bees needed for viable production of	late October	VIC, NSW
Berry crop	100	2.5 - 10	100	) marketable fruit		VIC, NSW, TAS
Blueberry	100	2.5 - 10	100)		
GROUND CROPS						
Peanut	10	-	10			
SEED PRODUCTION ONLY (VEGETABLE)						
				Most veg.commercial crops do not require bees; capsicum & chilli etc. do		
Onions (seed)	100		100	) Under Aust. Conditions. (Flies also used under		
Broccoli (seed)	100	5 to 10	100	) controlled conditions; single plants or heads		VIC, NSW, TAS
Brussels sprouts (seed)	100	5 to 10	100	) " " " "		VIC, NSW, TAS
Cabbage (seed)	100	5 to 10	100	) " " " "		VIC, NSW, TAS
Cauliflower (seed)	100	5 to 10	100	) " " " "	August-September	VIC, NSW, TAS
Beans (seed)	10	6 to 10*		*Used by Yates Seed Narromine, now Enza Zaden		NSW, QLD
Carrot (seed)	100	7 to 8	100		Summer	NSW, SA, QLD
Celery (seed)	100	7 to 8	100			
VEGETABLES (VINE)						
Cucumber (commercial)	100	3 to 4	100)Honey bees are the main pollinator visitors to this		

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Squash (commercial)	100	3 to 4	100)group. 100% visitation required to produce a viable		
Pumpkin (commercial)	100	3 to 4	100	) crop. The flowers require multi visits.		
Rock Melon (commercial)	100	4 to 6	100	) Separate male and female flowers are produced on the		
Water Melon (commercial)	100	5 to 15	100	) vines.		
Seedless WaterMelon (commercial)		5 to 15		The female flowers may need up to 18 visits to provide adequate pollen to produce both the shape and weight required for a commercial melon. Stocking rate is 5 - 15 per ha to achieve this.	The female flowers are male sterile on separate plants. The male or pollen provider is also a commercial melon, having both male & female flowers	
OTHER						
Mustard (commercial)	25	1 to 2	25	) 25% yield and oil improvement in commercial		
Canola (commercial)	25	1 to 2	25	) oil crop of mustard and canola.		
Mustard (seed)	100	4 to 10	100			
Canola (seed)	100	4 to 10	100			
Lucerne (seed)	100	3 to 5	100	) Bees not required to produce hay crop or pasture		
Clover (seed) (White, Red, Purple) not the sub clovers or vetches)	100 10	3 to 5	10	) but 100% for seed production. The clovers (white, red, purple etc) require bees to be present in the flowering stage to maintain the seed bank level in the pasture. Whereas Sub Clover does have a self-pollination mechanism, but still visited by honey bees for pollen and nectar.		
Sunflower (seed)	100	4 to 6	100			
Sunflower (commercial)	25	1 to 2	25	Commercial production only		
Lupins (commercial)	25	1 to 2	25	)seed & field, for both seed & commercial production		
Faba (commercial)	25	1 to 2	25	)seed & field, for both seed & commercial production		
Safflower (commercial)	25	1 to 2	25	)seed & field, for both seed & commercial production		
Cotton (seed or commercial)	25 - 35	1 to 2	25 to 35	Increase in lint quality and quality seed and oil in the commercial crop. For seed production in U.S. as many as 6 - 20 hives have been suggested for seed production. Cross pollination within a cultivar using honey bees has many benefits over self-pollination. The cotton industry would use many thousands of hives for production of their seed requirements as plant vigour is very much improved in seed that is to be sown to produce the next crop.		