Buzz-Pollinated Crops: A Global Review and Meta-analysis of the Effects of Supplemental Bee Pollination in Tomato

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Table S1. Full list of 73 experiments and 24 studies included arranged by percentage change in fruit weight relative to a no-pollination control (% Change in fruit weight). ID = Experiment number. For full references see the Reference section in the article's main text. Studies included in the meta-analysis are indicated with *.

ID	Study	Cultivation type	Location	Tomato variety	Treatment	% Change in fruit weight
1	Martin-Closas Puigdomenech & Pelacho 2007	Greenhouse	Spain	Bond	Auxin	-20.281
2	Strange 2015	Greenhouse	USA	Sungold	Buzzing bee	-18.074
3	Martin-Closas Puigdomenech & Pelacho 2007	Greenhouse	Spain	Bond	Buzzing bee	-17.791
4	Martin-Closas Puigdomenech & Pelacho 2007	Greenhouse	Spain	Bond	Auxin	-13.201
5	Salvarrey et al. 2020	Greenhouse	Uruguay	Elipida	Auxin	-12.172
6	Martin-Closas Puigdomenech & Pelacho 2007	Greenhouse	Spain	Bond	Buzzing bee	-6.983
7	Martin-Closas Puigdomenech & Pelacho 2007	Greenhouse	Spain	Bond	Mechanic	-6.667
8	Martin-Closas Puigdomenech & Pelacho 2007	Greenhouse	Spain	Bond	Mechanic	-6.320
9	Vergara & Fieldonseca-Buendia 2012*	Greenhouse	Mexico	NA	Mechanic	2.841
10	Gaglianone et al. n.d.	NA	Brazil	Salada	Open pollination	3.661
11	Putra & Kinasih 2014	Field	Indonesia	NA	Non-buzzing bee	3.939
12	Gaglianone et al. n.d.	NA	Brazil	Cherry	Open pollination	4.167
13	Vergara & Fieldonseca-Buendia 2012*	Greenhouse	Mexico	NA	Mechanic	5.405
14	Dogterom Matteoni & PlowriGreenhouset 1998*	Greenhouse	Canada	BeeFieldsteak	Mechanic	6.137
15	Strange 2015	Greenhouse	USA	Fieldavorita	Buzzing bee	6.419

16	Silva-Neto et al. 2019	Greenhouse	Brazil	Santa Cruz	Buzzing bee	8.119
17	Cauich et al. 2004	Greenhouse	Mexico	Maya	Non-buzzing bee	9.076
18	Vergara & Fieldonseca-Buendia 2012*	Greenhouse	Mexico	NA	Buzzing bee	10.187
19	Bell Spooner-hart & HaiGreenhouse 2006*	Greenhouse	Australia	NA	Buzzing bee	12.911
20	Cauich et al. 2004	Greenhouse	Mexico	Maya	Mechanic	12.966
21	Strange 2015	Greenhouse	USA	Sungold & Fieldavorita Cherry Tomato	Buzzing bee	13.303
22	Hogendoorn Steen & Schwarz 20008*	Field	Australia	Grosselissi	Buzzing bee	13.559
23	Strange 2015	Greenhouse	USA	Sungold & Fieldavorita Cherry Tomato	Buzzing bee	13.660
24	Putra & Kinasih 2014	Field	Indonesia	NA	Non-buzzing bee	13.826
25	Nazer Kasrawi & Al-Attal 2003	Greenhouse	Jordan	NA	Auxin	14.023
26	Silva-Neto et al. 2019	Greenhouse	Brazil	AP533 hybrid	Buzzing bee	15.109
27	Bell Spooner-hart & HaiGreenhouse 2006*	Greenhouse	Australia	NA	Mechanic	18.043
28	Kasina 2007*	Field	Kenya	NA	Open pollination	18.085
29	Strange 2015	Greenhouse	USA	Sungold & Fieldavorita Cherry Tomato	Buzzing bee	18.297
30	Gaglianone et al. n.d.	NA	Brazil	Aguamiel	Open pollination	19.004
31	Nazer Kasrawi & Al-Attal 2003	Greenhouse	Jordan	NA	Mechanic	19.122
32	Strange 2015	Greenhouse	USA	Sungold	Buzzing bee	19.200
33	Banda & Paxton 1991*	Greenhouse	England	BeeFieldsteak	Non-buzzing bee	19.539
34	Macias-Macias Chuc Ancona-Xiu Cauich & Quezada-Eua 2009*	Field	Mexico	Saladette	Non-buzzing bee	22.193
35	Gaglianone et al. n.d.	NA	Brazil	Chipano	Open pollination	23.077

36	Salvarrey et al. 2020	Greenhouse	Uruguay	Lapataia	Buzzing bee	23.844
37	Dogterom Matteoni & PlowriGreenhouset 1998*	Greenhouse	Canada	BeeFieldsteak	Buzzing bee	25.684
38	Strange 2015	Greenhouse	USA	Fieldavorita	Buzzing bee	26.091
39	Salvarrey et al. 2020	Greenhouse	Uruguay	Elipida	Auxin	29.874
40	Banda & Paxton 1991*	Greenhouse	England	BeeFieldsteak	Mechanic	30.500
41	Hogendoorn 2006*	Greenhouse	Australia	NA	Mechanic	36.163
42	Banda & Paxton 1991*	Greenhouse	England	BeeFieldsteak	Non-buzzing bee	37.010
43	Salvarrey et al. 2020	Greenhouse	Uruguay	Elipida	Buzzing bee	37.736
44	Cure and Rodriguez 2007	Greenhouse	Colombia	Durinta	Buzzing bee	40.900
45	Banda & Paxton 1991*	Greenhouse	England	BeeFieldsteak	Mechanic	41.277
46	Salvarrey et al. 2020	Greenhouse	Uruguay	Elipida	Buzzing bee	41.331
47	Nazer Kasrawi & Al-Attal 2003	Greenhouse	Jordan	NA	Buzzing bee	42.068
48	Macias-Macias Chuc Ancona-Xiu Cauich & Quezada-Eua 2009*	Field	Mexico	Saladette	Buzzing bee	47.594
49	Gaglianone et al. n.d.	NA	Brazil	Sweet gold	Open pollination	48.551
50	Fieldranceschinelli et al. 2013	Field	Brazil	Italian	Open pollination	50.212
51	Gaglianone et al. n.d.	NA	Brazil	Italian	Open pollination	50.212
52	Macias-Macias Chuc Ancona-Xiu Cauich & Quezada-Eua 2009*	Field	Mexico	Saladette	Buzzing bee	54.545
53	Banda & Paxton 1991*	Greenhouse	England	BeeFieldsteak	Buzzing bee	62.612
54	Macias-Macias Chuc Ancona-Xiu Cauich & Quezada-Eua 2009*	Field	Mexico	Saladette	Open pollination	67.914
55	Gaglianone et al. n.d.	NA	Brazil	Sophia	Open pollination	68.541
56	Hogendoorn 2006*	Greenhouse	Australia	NA	Buzzing bee	69.019
57	Banda & Paxton 1991*	Greenhouse	England	BeeFieldsteak	Buzzing bee	86.458
58	Amala & Shivalingaswamy 2017	Field	India	S. lycopersicum	Buzzing bee	87.017
59	Hikawa & Miyanaga 2009	Greenhouse	Japan	NA	Buzzing bee	87.629

60	Hikawa & Miyanaga 2009	Greenhouse	Japan	NA	Buzzing bee	91.753
61	Torres-Ruiz & Jones 2013*	Greenhouse	Mexico	Tricia	Buzzing bee	96.039
62	Torres-Ruiz & Jones 2013*	Greenhouse	Mexico	Tricia	Buzzing bee	106.780
63	Amala & Shivalingaswamy 2017	Field	India	S. lycopersicum	Buzzing bee	154.042
64	Hikawa & Miyanaga 2009	Greenhouse	Japan	NA	Buzzing bee	158.696
65	Hikawa & Miyanaga 2009	Greenhouse	Japan	NA	Buzzing bee	167.391
66	Ahmad et al. 2015	Greenhouse	Pakistan	Cherry	Mechanic	226.316
67	Vinicius-Silva et al. 2017*	Field	Brazil	NA	Open pollination	227.777
68	Ahmad et al. 2015	Greenhouse	Pakistan	Grandella	Mechanic	261.165
69	Vinicius-Silva et al. 2017*	Field	Brazil	NA	Open pollination	344.223
70	Ahmad et al. 2015	Greenhouse	Pakistan	Cherry	Buzzing bee	347.368
71	Ahmad et al. 2015	Greenhouse	Pakistan	Grandella	Buzzing bee	404.854
72	Hikawa & Miyanaga 2009	Greenhouse	Japan	NA	Buzzing bee	783.333
73	Hikawa & Miyanaga 2009	Greenhouse	Japan	NA	Buzzing bee	900.000