Table 1: Summary of data sets used to estimate parameters.

Parameter data	Description	Data set	Time span
Seed vital rates	—	—	—
Seed survival and germination	Seed bag burial	$\mathbf{Y}_1$	2006-2009
Seed viability	Viability trials	$\mathbf{Y}_2$	2006-2009
Seed survival and germination	Seed pots	$\mathbf{Y}_3$	2013-2019
Seedling survival	—	—	—
Seedling survival to fruiting	Field surveys	$\mathbf{Y}_4$	2006-2019
Fruits per plant	—	—	—
Total fruit equivalents per plant	Field surveys	$\mathbf{Y}_5$	2006-2012
Undamaged and damaged fruits per plant	Field surveys	$\mathbf{Y}_6$	2013-2019
Total fruit equivalents per plant	Extra plots	$\mathbf{Y}_7$	2006-2012
Undamaged and damaged fruits per plant	Extra plots	$\mathbf{Y}_8$	2013-2019
Seeds per fruit	—	—	—
Seeds per undamaged fruit	Lab counts	$\mathbf{Y}_9$	2006-2019
Seeds per damaged fruit	Lab counts	$\mathbf{Y}_{10}$	2013-2019

TABLE 2: Summary of dataset from seed bag burial experiment. [Data set $\mathbf{Y}_1$]

	Age 1			Age 2		Age 3
Population	2007	2008	2009	2008	2009	2009
BG	7	10	10	6	10	3
BR	10	10	10	9	10	9
CF	10	10	10	10	10	10
CP3	7	10	8	9	5	7
DEM	8	9	10	7	7	6
DLW	9	9	8	8	9	6
EC	9	9	10	8	10	8
FR	9	7	10	8	9	3
GCN	10	10	10	9	9	6
KYE	10	10	10	9	9	9
LCE	10	10	9	9	7	7
LCW	10	10	5	9	7	8
LO	10	9	10	10	11	9
MC	10	10	10	8	9	9
OKRE	10	11	10	9	7	9
OKRW	10	10	8	9	9	7
OSR	10	10	10	8	9	9
S22	9	10	10	8	10	8
SM	9	10	9	8	10	9
URS	7	9	9	5	9	3

TABLE 3: Summary of dataset on viability of seeds from seed bag burial experiment. [Data set $\mathbf{Y}_2$]

	Age 1			Age 2		Age 3
Population	2007	2008	2009	2008	2009	2009
BG	7	10	10	6	10	3
BR	10	9	10	10	10	9
CF	10	10	10	9	10	10
CP3	7	10	9	8	7	7
DEM	8	9	10	6	7	5
DLW	8	9	9	8	9	7
EC	9	10	10	8	10	6
FR	8	8	10	8	10	4
GCN	9	10	10	8	9	7
KYE	10	10	10	9	9	9
LCE	10	10	9	9	6	9
LCW	10	10	5	9	7	7
LO	11	9	10	9	10	9
MC	9	9	10	8	9	9
OKRE	10	11	10	9	7	9
OKRW	9	10	8	8	9	7
OSR	10	10	10	8	9	9
S22	9	10	10	8	10	8
SM	8	10	9	8	10	11
URS	7	9	9	5	8	4

TABLE 4: Summary of dataset on seedling survival to fruiting. [Data set $\mathbf{Y}_4$]

Population	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
BG	18	21	22	26	24	26	20	23	3	26	5	16	12	25
BR	19	30	29	30	30	30	29	30	9	27	5	26	25	29
CF	20	21	28	29	29	21	23	27	15	15	5	22	–	19
CP3	18	19	19	13	19	8	–	10	1	7	–	6	1	11
DEM	18	17	14	21	24	25	18	22	3	9	4	21	18	28
DLW	16	18	13	15	17	22	16	19	1	13	5	11	4	19
EC	20	28	30	30	30	30	30	24	2	10	9	8	2	9
FR	20	28	27	27	30	30	24	25	7	15	3	17	8	28
GCN	18	20	15	20	28	29	22	27	5	17	–	1	5	19
KYE	18	28	28	30	30	30	27	28	1	27	9	12	5	10
LCE	20	12	18	19	19	1	1	3	1	8	7	19	17	24
LCW	16	27	27	27	21	4	–	15	–	1	–	4	5	20
LO	12	15	28	29	27	2	1	19	5	11	6	19	10	25
MC	17	11	22	25	27	30	29	27	6	18	8	15	–	13
OKRE	14	10	8	19	21	17	7	19	6	10	5	15	5	15
OKRW	19	19	22	20	19	12	9	13	–	3	1	3	1	12
OSR	15	13	9	9	23	26	18	20	1	14	–	1	–	5
S22	17	10	21	18	28	17	27	26	–	17	4	10	1	10
SM	15	8	13	18	23	25	18	24	–	19	8	13	–	14
URS	4	17	10	7	12	14	3	5	2	1	–	5	–	4

TABLE 5: Summary of undercounting in the dataset on seedling survival to fruiting. Values are the percentage of plots with more fruiting plants than seedlings.

Population	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
BG	0.0	14.0	9.1	0.0	12.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	83.0	0.0
BR	0.0	3.3	10.0	0.0	33.0	0.0	3.4	0.0	44.0	0.0	20.0	0.0	76.0	17.0
CF	0.0	9.5	7.1	3.4	17.0	9.5	0.0	0.0	6.7	0.0	0.0	4.5	–	16.0
CP3	0.0	5.3	21.0	15.0	0.0	12.0	–	0.0	–	0.0	–	0.0	0.0	0.0
DEM	0.0	35.0	14.0	0.0	29.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	22.0	7.1
DLW	0.0	11.0	7.7	13.0	29.0	4.5	6.2	0.0	0.0	0.0	40.0	0.0	50.0	5.3
EC	0.0	29.0	30.0	0.0	20.0	0.0	0.0	21.0	50.0	0.0	11.0	0.0	0.0	44.0
FR	5.0	3.6	7.4	3.7	0.0	0.0	0.0	0.0	43.0	0.0	33.0	0.0	0.0	11.0
GCN	0.0	0.0	27.0	0.0	29.0	17.0	0.0	0.0	–	0.0	–	0.0	40.0	11.0
KYE	0.0	3.6	29.0	0.0	47.0	3.3	0.0	3.6	–	3.7	0.0	0.0	20.0	30.0
LCE	0.0	50.0	5.6	37.0	5.3	0.0	0.0	0.0	0.0	0.0	14.0	5.3	29.0	4.2
LCW	0.0	3.7	0.0	0.0	4.8	25.0	–	0.0	–	0.0	–	0.0	0.0	0.0
LO	0.0	33.0	7.1	6.9	0.0	–	0.0	0.0	0.0	9.1	33.0	11.0	50.0	20.0
MC	0.0	27.0	4.5	8.0	7.4	0.0	0.0	0.0	33.0	0.0	38.0	6.7	–	7.7
OKRE	0.0	20.0	12.0	11.0	14.0	18.0	0.0	0.0	17.0	0.0	20.0	6.7	40.0	0.0
OKRW	0.0	5.3	0.0	5.0	37.0	33.0	0.0	0.0	–	0.0	–	0.0	–	8.3
OSR	0.0	7.7	11.0	0.0	39.0	15.0	0.0	0.0	–	0.0	–	0.0	–	40.0
S22	0.0	0.0	19.0	5.6	18.0	18.0	3.7	0.0	–	0.0	50.0	0.0	0.0	10.0
SM	0.0	0.0	23.0	0.0	61.0	20.0	0.0	4.2	–	0.0	0.0	0.0	–	50.0
URS	0.0	5.9	0.0	14.0	17.0	7.1	0.0	0.0	0.0	0.0	–	0.0	–	50.0

TABLE 6: Summary of dataset on total fruit equivalents per plant from transects. [Data set $\mathbf{Y}_5$]

Population	2007	2008	2009	2010	2011	2012
BG	42	145	47	151	105	11
BR	172	515	222	377	153	61
CF	22	75	118	321	164	29
CP3	29	18	23	23	4	–
DEM	70	56	139	200	100	15
DLW	6	8	11	40	34	19
EC	122	126	253	350	289	25
FR	100	21	115	326	94	3
GCN	–	8	–	107	179	17
KYE	40	151	112	251	195	3
LCE	25	66	41	6	–	–
LCW	253	266	16	58	3	–
LO	15	187	472	68	2	1
MC	24	33	56	150	188	4
OKRE	11	11	27	57	35	1
OKRW	8	14	24	103	10	–
OSR	13	20	36	159	129	32
S22	–	23	30	102	22	3
SM	5	26	42	137	159	2
URS	3	3	2	10	17	1

TABLE 7: Summary of dataset on undamaged and damaged fruits per plant from transects. [Data set $\mathbf{Y}_6$]

Population	2013	2014	2015	2016	2017	2018
BG	7	3	–	3	12	38
BR	32	8	3	5	46	107
CF	13	12	2	6	33	–
CP3	2	1	–	–	1	–
DEM	12	3	2	5	134	156
DLW	2	–	–	4	11	11
EC	13	1	15	2	9	–
FR	–	4	1	1	42	13
GCN	1	9	3	–	–	4
KYE	6	1	19	–	3	4
LCE	–	–	1	14	24	73
LCW	–	–	–	–	–	1
LO	6	2	1	6	12	11
MC	–	3	–	7	10	–
OKRE	5	3	1	2	19	4
OKRW	–	–	–	1	4	1
OSR	1	1	–	–	–	–
S22	1	–	4	4	6	–
SM	8	–	9	–	–	–
URS	–	–	–	–	3	–

TABLE 8: Summary of dataset on total fruit equivalents per plant from extra plots. [Data set $\mathbf{Y}_7$]

Population	2006	2007	2008	2009	2010	2011	2012
BG	153	118	77	108	–	38	52
BR	349	58	229	17	115	48	64
CF	282	143	150	68	38	74	68
CP3	279	197	128	178	177	103	25
DEM	177	67	–	52	188	28	78
DLW	208	124	110	139	147	70	54
EC	370	74	7	34	46	112	58
FR	261	88	133	61	102	57	14
GCN	240	169	148	125	161	79	136
KYE	285	155	174	87	155	30	72
LCE	246	194	81	105	127	29	0
LCW	243	17	75	178	167	50	3
LO	98	98	67	–	132	38	2
MC	163	133	109	95	56	90	73
OKRE	100	36	32	113	50	87	4
OKRW	280	52	57	51	125	91	6
OSR	277	288	246	150	157	145	117
S22	319	111	69	157	144	83	112
SM	217	20	53	79	33	41	49
URS	32	40	38	52	145	40	6

TABLE 9: Summary of dataset on undamaged and damaged fruits per plant from extra plots. [Data set $\mathbf{Y}_9$]

Population	2013	2014	2015	2016	2017	2018
BG	34	89	52	53	90	126
BR	82	173	62	79	134	167
CF	58	102	50	90	165	150
CP3	149	87	59	69	141	11
DEM	20	43	43	62	121	100
DLW	66	35	61	56	232	158
EC	41	41	81	64	142	6
FR	6	55	40	52	156	61
GCN	9	35	55	64	103	130
KYE	54	135	101	57	141	129
LCE	25	53	60	135	94	82
LCW	0	0	0	0	48	154
LO	2	46	–	8	175	38
MC	5	74	44	46	122	113
OKRE	63	28	31	38	78	32
OKRW	0	8	0	31	126	34
OSR	46	159	104	99	150	108
S22	–	29	65	102	253	18
SM	52	3	19	0	53	18
URS	0	0	0	79	35	0

TABLE 10: Summary of dataset on seeds per undamaged fruit. [Data set $\mathbf{Y}_9$]

Population	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
BG	21	19	41	30	30	28	29	29	30	29	29	32	27
BR	20	29	32	30	29	18	29	39	31	31	30	27	32
CF	20	45	30	29	34	30	27	28	30	26	28	31	33
CP3	20	36	41	30	30	29	21	30	30	21	29	29	11
DEM	20	32	29	30	32	27	27	30	24	28	30	25	29
DLW	20	29	22	30	31	28	25	33	1	30	29	32	35
EC	20	17	29	30	31	26	22	30	31	31	30	30	4
FR	20	34	31	30	31	31	10	2	46	30	38	31	31
GCN	20	29	29	30	32	30	29	27	28	29	30	30	30
KYE	20	30	30	30	30	30	28	25	30	29	27	31	30
LCE	20	30	30	30	32	12	0	30	29	38	30	26	37
LCW	20	50	28	30	35	32	4	0	0	0	0	28	33
LO	32	44	30	30	37	2	2	24	30	0	30	28	28
MC	20	50	29	30	35	30	26	24	46	35	30	34	30
OKRE	20	40	26	30	30	28	3	30	18	24	31	35	22
OKRW	20	28	33	30	34	28	4	0	9	0	27	26	29
OSR	20	32	32	30	30	28	29	29	30	37	32	33	30
S22	20	40	33	30	28	23	30	30	23	30	30	30	17
SM	20	44	31	29	32	30	27	30	3	8	0	30	3
URS	18	30	25	30	30	27	5	0	0	0	29	16	0

TABLE 11: Summary of dataset on seeds per damaged fruit. [Data set $\mathbf{Y}_{10}$]

Population	2013	2014	2015	2016	2017	2018
BG	17	20	11	30	28	28
BR	24	25	23	30	26	26
CF	22	29	27	29	28	28
CP3	23	11	9	14	20	4
DEM	5	14	25	30	20	28
DLW	8	0	30	30	30	33
EC	12	22	8	30	30	1
FR	2	25	15	32	26	17
GCN	1	0	3	7	22	30
KYE	23	34	15	28	32	31
LCE	1	11	15	24	16	7
LCW	0	0	0	0	16	15
LO	4	14	0	27	29	4
MC	4	15	15	30	24	31
OKRE	13	8	9	18	30	7
OKRW	0	4	0	21	24	5
OSR	1	19	26	36	20	25
S22	1	3	2	7	10	1
SM	1	3	0	0	0	0
URS	0	0	0	19	20	0