

2021 Hudson Valley Research Lab Scouting Report

Cornell AgriTech Entomology Department, Highland, NY

<u>Date</u>	<u>Baskerville-Emin (BE)</u>		<u># / trap / day (pheromone trap)</u>	<u>Field Observations / Trap Catches / Models</u>
	<u>DD Accumulations (previous day NEWA)</u>	<u>DD Accumulations (previous day NEWA)</u>		
3/1	5.0	0.0		Degree day accumulations beginning 1 January, 2021 Speckled Green Fruitworm (SGFW) Trap Set Redbanded Leafroller (RBLR) Trap Set
			0.0	Total Rainfall (Since 1 March, 2021)
3/8	6.3	0.0		Degree day accumulations beginning 1 January, 2021
			0.0	Speckled Green Fruitworm (SGFW) (0/0)
			0.0	Redbanded Leafroller (RBLR) (0/0)
			0.0	Pear Psylla (0 eggs/25 buds)
			0.27	Weekly Rainfall
			0.27	Total Rainfall (Since 1 March, 2021)

Phenology

<u>Crop</u>	<u>Cultivar</u>	<u>Rootstock</u>	<u>Stage (%)</u>	
			<u>Dormant</u>	<u>Silver Tip</u>
Apple				
	Zestar	M9	35	65
	Jersey Mac	M9	64	36
	Cortland	M9	54	46
	McIntosh	M26	52	48
	Red Chief	M26	56	44
	Ginger Gold	M26	32	68
	Smoothie	M26	67	33
	Empire	M9T337	38	62
	Gala	B9	72	28
	Honey Crisp	Nic29	95	5
Pear				
	Bartlett		100	0
	Bosc		100	0

Baskerville-Emin (BE)			
Date	DD Accumulations (previous day NEWA)	Field Observations / Trap Catches / Models	
	43 F	50 F	# / trap / day (pheromone trap)
3/12	24.6	9.5	Degree day accumulations beginning 1 January, 2021
			0.0 Speckled Green Fruitworm (SGFW) (0/0)
			0.5 Redbanded Leafroller (RBLR) (1/0) First Catch
			0.0 Weekly Rainfall
			0.27 Total Rainfall (Since 1 March, 2021)

Baskerville-Emin (BE)			
Date	DD Accumulations (previous day NEWA)	Field Observations / Trap Catches / Models	
	43 F	50 F	# / trap / day (pheromone trap)
3/15	35.6	13.9	Degree day accumulations beginning 1 January,
			0.0 Speckled Green Fruitworm (SGFW) (0/0)
			0.0 Redbanded Leafroller (RBLR) (0/0)
			0.0 Spotted Tentiform Leafminer (STLM) (0/0)
			0.0 Oriental Fruit Moth (OFM) (0/0)
			0.0 Lesser Apple Worm (LAW) (0/0)
			0.0 Psylla eggs / bud (0 egg / 25 buds)
			0.0 Weekly Rainfall
			0.27 Total Rainfall (Since 1 March, 2021)

Phenology

Crop	Cultivar	Rootstock	Stage (%)	
Apple			<i>Dormant</i>	<i>Silver Tip</i>
	Zestar	M9	33	67
	Jersey Mac	M9	49	51
	Cortland	M9	62	38
	McIntosh	M26	37	63
	Red Chief	M26	53	47
	Ginger Gold	M26	37	63
	Smoothie	M26	42	58
	Empire	M9T337	28	72
	Gala	B9	40	60
Honey Crisp	Nic29	70	30	
Pear			<i>Dormant</i>	<i>Swollen Bud</i>
	Bartlett		57	43
	Bosc		78	22

Baskerville-Emin (BE)

<u>Date</u>	<u>DD Accumulations (previous day NEWA)</u>		<u>Field Observations / TrapCatches / Models</u>
	43 F	50 F	# / trap / day (pheromone trap)
3/22	44.2	17.9	Degree day accumulations beginning 1 January,
			0.0 Speckled Green Fruitworm (SGFW) (0/0)
			0.5 Redbanded Leafroller (RBLR) (0/1)
			0.0 Spotted Tentiform Leafminer (STLM) (0/0)
			0.0 Oriental Fruit Moth (OFM) (0/0)
			0.0 Lesser Apple Worm (LAW) (0/0)
			0.0 Psylla eggs / bud (0 egg / 25 buds)
			0.93 Weekly Rainfall
			1.20 Total Rainfall (Since 1 March, 2021)

Crop	Cultivar	Rootstock	Stage (%)	
Apple			<i>Dormant</i>	<i>Silver Tip</i>
	Zestar	M9	21	79
	Jersey Mac	M9	24	76
	Cortland	M9	31	59
	McIntosh	M26	17	83
	Red Chief	M26	24	76
	Ginger Gold	M26	21	79
	Smoothie	M26	40	60
	Empire	M9T337	22	78
	Gala	B9	32	68
	Honey Crisp	Nic29	51	49
Pear			<i>Dormant</i>	<i>Swollen Bud</i>
	Bartlett		48	52
	Bosc		58	42

Baskerville-Emin (BE)			
<u>Date</u>	<u>DD Accumulations (previous day NEWA)</u>		<u>Field Observations / Trap Catches / Models</u>
	43 F	50 F	# / trap / day (pheromone trap)
3/29	106.2	50.5	Degree day accumulations beginning 1 January, 0.0 Speckled Green Fruitworm (SGFW) (0/0) 0.1 Redbanded Leafroller (RBLR) (2/0) First Sustained Catch 0.0 Spotted Tentiform Leafminer (STLM) (0/0) 0.0 Oriental Fruit Moth (OFM) (0/0) 0.0 Lesser Apple Worm (LAW) (0/0) 0.0 Codling Moth (CM) (0/0) 0.0 Obliquebanded Leafroller (OBLR) (0/0) 0.0 Psylla eggs / bud (0 egg / 25 buds) 1.62 Weekly Rainfall 2.82 Total Rainfall (Since 1 March, 2021)

Crop	Cultivar	Rootstock	Stage (%)		
Apple			<i>Silver Tip</i>	<i>Green Tip</i>	<i>Half-inch Green</i>
	Zestar	M9	27	73	
	Jersey Mac	M9	26	74	
	Cortland	M9	25	75	
	McIntosh	M26	21	79	
	Red Chief	M26	35	65	
	Ginger Gold	M26	16	84	
	Smoothie	M26	8	92	
	Empire	M9T337	3	96	1
	Gala	B9	2	95	3
	Honey Crisp	Nic29	34	66	
Pear			<i>Dormant</i>	<i>Swollen Bud</i>	
	Bartlett		37	63	
	Bosc		59	41	
Peach			<i>Dormant</i>	<i>Swollen Bud</i>	
	Red Haven		23	77	
Sweet Cherry			<i>Dormant</i>	<i>Swollen Bud</i>	
	Black Pearl		23	67	

Baskerville-Emin (BE)			
<u>Date</u>	<u>DD Accumulations (previous day NEWA)</u>		<u>Field Observations / Trap Catches / Models</u>
	43 F	50 F	# / trap / day (pheromone trap)
4/1	114.8	53.8	Degree day accumulations beginning 1 January, 0.2 Pear Psylla eggs/bud (8 egg/50 buds) First Catch

<u>Date</u>	<u>Baskerville-Emin (BE)</u>		<u># / trap / day (pheromone trap)</u>	<u>Field Observations / Trap Catches / Models</u>
	<u>DD Accumulations (previous day NEWA)</u>			
	43 F	50 F		
4/5	122.8	55.5		Degree day accumulations beginning 1 January, 2021
			0.0	Speckled Green Fruitworm (SGFW) (0/0)
			0.5	Redbanded Leafroller (RBLR) (4/3)
			0.1	Spotted Tentiform Leafminer (STLM) (1/0) (First Catch/Biofix)
			0.0	Oriental Fruit Moth (OFM) (0/0)
			0.0	Lesser Apple Worm (LAW) (0/0)
			0.0	Codling Moth (CM) (0/0)
			0.0	Obliquebanded Leafroller (OBLR) (0/0)
			0.0	Black Stem Borer (BSB) (0/0)
			0.02	Psylla eggs / bud (1 egg / 25 buds) First Sustained Catch
			0.25	Weekly Rainfall
			3.07	Total Rainfall (Since 1 March, 2021)

Phenology

Crop	Cultivar	Rootstock	Stage (%)	
			<i>Green Tip</i>	<i>Half-inch Green</i>
Apple				
	Zestar	M9	27	73
	Jersey Mac	M9	45	55
	Cortland	M9	47	53
	McIntosh	M26	58	42
	Red Chief	M26	23	77
	Ginger Gold	M26	21	79
	Smoothie	M26	56	44
	Empire	M9T337	20	80
	Gala	B9	7	93
	Honey Crisp	Nic29	58	42
Pear			<i>Swollen Bud</i>	<i>Bud Burst</i>
	Bartlett		65	35
	Bosc		77	23
Peach			<i>Swollen Bud</i>	<i>Half-inch Green</i>
	Red Haven		91	9
Sweet Cherry			<i>Dormant</i>	<i>Swollen Bud</i>
	Black Pearl		0	100

<u>Date</u>	<u>Baskerville-Emin (BE)</u>		<u># / trap / day (pheromone trap)</u>	<u>Field Observations / Trap Catches / Models</u>
	<u>DD Accumulations (previous day NEWA)</u>	<u>DD Accumulations (previous day NEWA)</u>		
	43 F	50 F		
4/9	160.1	76.8		Degree day accumulations beginning 1 January, 2021
			0.0	Speckled Green Fruitworm (SGFW) (0/0)
			6.6	Redbanded Leafroller (RBLR) (52/41)
			5.6	Spotted Tentiform Leafminer (STLM) (72/6)(First Sustained Catch)
			0.0	Oriental Fruit Moth (OFM) (0/0)
			0.0	Lesser Apple Worm (LAW) (0/0)
			0.0	Codling Moth (CM) (0/0)
			0.0	Obliquebanded Leafroller (OBLR) (0/0)
			0.1	Black Stem Borer (BSB) (0/2) (First Catch)
			0.0	San Jose Scale (SJS) (0/0)
			0.0	Psylla eggs / bud (0 egg / 25 buds)
			0.25	Weekly Rainfall
			3.07	Total Rainfall (Since 1 March, 2021)

Phenology

Crop	Cultivar	Rootstock	Stage (%)		
Apple			<i>Half-inch Green</i>	<i>Half-inch Green</i>	<i>Pink</i>
	Zestar	M9	10	90	
	Jersey Mac	M9	21	79	
	Cortland	M9	19	81	
	McIntosh	M26	14	86	
	Red Chief	M26	13	87	
	Ginger Gold	M26		100	
	Smoothie	M26	11	89	
	Empire	M9T337		95	5
	Gala	B9	2	98	
	Honey Crisp	Nic29	16	84	
Pear			<i>Bud Burst</i>	<i>Green Cluster</i>	
	Bartlett		14	86	
	Bosc		8	92	
Peach			<i>Pink</i>	<i>Bloom</i>	
	Red Haven		83	17	
Sweet Cherry			<i>White Bud</i>	<i>Bloom</i>	
	Black Pearl		90	10	
Grape			<i>Dormant</i>	<i>Swollen Bud</i>	
	Cabernet Franc		23	77	
	Pinot Noir		34	66	

<u>Date</u>	<u>Baskerville-Emin (BE)</u>		<u># / trap / day (pheromone trap)</u>	<u>Field Observations / Trap Catches / Models</u>
	<u>DD Accumulations (previous day NEWA)</u>			
	43 F	50 F		
4/19	254.1	124.9		Degree day accumulations beginning 1 January, 2021
			0.0	Speckled Green Fruitworm (SGFW) (0/0)
			7.7	Redbanded Leafroller (RBLR) (53/55)
			48.3	Spotted Tentiform Leafminer (STLM) (500/176)
			0.4	Oriental Fruit Moth (OFM) (0/5) (First Catch)
			0.0	Lesser Apple Worm (LAW) (0/0)
			0.0	Codling Moth (CM) (0/0)
			0.0	Obliquebanded Leafroller (OBLR) (0/0)
			2.9	Black Stem Borer (BSB) (4/36) (First Sustained Catch)
			0.0	San Jose Scale (SJS) (0/0)
			0.0	Psylla eggs / bud (0 egg / 25 buds)
			1.25	Weekly Rainfall
			4.44	Total Rainfall (Since 1 March, 2021)

Degree Day Modeling

131 STLM (4/5 Biofix) moths flying and beginning to lay eggs.

Phenology

Crop	Cultivar	Rootstock	Stage (%)		
			<i>Tight Cluster</i>	<i>Pink</i>	<i>King Bloom</i>
Apple					
	Zestar	M9	18	78	4
	Jersey Mac	M9	92	8	
	Cortland	M9	44	56	
	McIntosh	M26	34	66	
	Red Chief	M26	28	72	
	Ginger Gold	M26	7	87	6
	Smoothie	M26	42	58	
	Empire	M9T337	15	85	
	Gala	B9	5	95	
	Honey Crisp	Nic29	25	75	
Pear			<i>White Bud</i>	<i>Bloom</i>	
	Bartlett		97	3	
	Bosc		97	3	
Peach			<i>Pink</i>	<i>Bloom</i>	
	Red Haven		7	93	
Sweet Cherry				<i>Bloom</i>	
	Black Pearl			100	
Grape			<i>Bud Swell</i>	<i>Bud Burst</i>	
	Cabernet Franc		34	66	
	Pinot Noir		72	18	

<u>Date</u>	<u>Baskerville-Emin (BE)</u>		<u># / trap / day (pheromone trap)</u>	<u>Field Observations / Trap Catches / Models</u>
	<u>DD Accumulations (previous day NEWA)</u>			
	43 F	50 F		
4/23	284.6	141.5		Degree day accumulations beginning 1 January, 2021
			0.0	Speckled Green Fruitworm (SGFW) (0/0)
			3.9	Redbanded Leafroller (RBLR) (10,21)
			8.1	Spotted Tentiform Leafminer (STLM) (44/21)
			0.0	Oriental Fruit Moth (OFM) (0/0)
			0.0	Lesser Apple Worm (LAW) (0/0)
			0.0	Codling Moth (CM) (0/0)
			0.0	Obliquebanded Leafroller (OBLR) (0/0)
			0.4	Black Stem Borer (BSB) (3/0)
			0.0	Black Stem Borer (ETOH soaked Bolts) (0/0)
			0.0	San Jose Scale (SJS) (0/0)
			0.0	Psylla eggs / bud (1 egg / 25 buds)
			0.5	Weekly Rainfall
			4.94	Total Rainfall (Since 1 March, 2021)

Degree Day Modeling

162	STLM (4/5 Biofix) moths flying and beginning to lay eggs.
30	OFM (4/19 First Catch) Moths flying and first egg hatch

Phenology

Crop	Cultivar	Rootstock	Stage (%)		
			<i>Pink</i>	<i>King Bloom</i>	<i>Full Bloom</i>
Apple					
	Zestar	M9	9	53	38
	Jersey Mac	M9	17	76	7
	Cortland	M9	21	56	23
	McIntosh	M26	35	51	14
	Red Chief	M26	29	71	
	Ginger Gold	M26	31	32	37
	Smoothie	M26	40	60	
	Empire	M9T337	13	55	32
	Gala	B9	29	66	5
	Honey Crisp	Nic29	35	65	
Pear			<i>White Bud</i>	<i>Bloom</i>	<i>Petal Fall</i>
	Bartlett		15	83	2
	Bosc		0	93	7
Peach			<i>Bloom</i>	<i>Petal Fall</i>	
	Red Haven		44	56	
Sweet Cherry			<i>Bloom</i>	<i>Petal Fall</i>	
	Black Pearl		51	49	
Grape			<i>Bud Swell</i>	<i>Bud Burst</i>	$\frac{1}{2}$ "
	Cabernet	0		3	48
	Franc				49
	Pinot Noir	19		70	11

<u>Date</u>	<u>Baskerville-Emin (BE)</u>		<u># / trap / day (pheromone trap)</u>	<u>Field Observations / Trap Catches / Models</u>
	<u>DD Accumulations (previous day NEWA)</u>			
	43 F	50 F		
5/3	454.7	234.6		Degree day accumulations beginning 1 January, 2021
			0.0	Speckled Green Fruitworm (SGFW) (0/0)
			12.5	Redbanded Leafroller (RBLR) (105/70)
			36.9	Spotted Tentiform Leafminer (STLM) (316/201)
			5.4	Oriental Fruit Moth (OFM) (30/45)
			0.1	Lesser Apple Worm (LAW) (0/1) First Catch
			0.1	Codling Moth (CM) (0/1) First Catch
			0.0	Obliquebanded Leafroller (OBLR) (0/0)
			5.5	Black Stem Borer (BSB) (14/63)
			0.7	Black Stem Borer (ETOH soaked Bolts) (16/1)(2/1)
			0.0	San Jose Scale (SJS) (0/0)
			2.9	Psylla eggs / leaf (73 eggs / 25 leaves)
			0.51	Weekly Rainfall
			5.45	Total Rainfall (Since 1 March, 2021)

Degree Day Modeling

302	STLM (4/5 Biofix) Eggs hatching and sap feeding mines appearing
161	OFM (4/19 First Catch) Moths flying & 50% of eggs have hatched

Phenology

Crop	Cultivar	Rootstock	Stage (%)		
			<i>King Bloom</i>	<i>Full Bloom</i>	<i>Petal Fall</i>
Apple					
	Zestar	M9	0	27	72
	Jersey Mac	M9	0	45	55
	Cortland	M9	2	36	62
	McIntosh	M26	3	26	71
	Red Chief	M26	2	31	67
	Ginger Gold	M26	4	29	67
	Smoothie	M26	8	46	46
	Empire	M9T337	0	9	91
	Gala	B9	6	33	61
	Honey Crisp	Nic29	8	83	11
Pear			<i>White Bud</i>	<i>Bloom</i>	<i>Petal Fall</i>
	Bartlett		0	11	89
	Bosc		0	2	98
Peach			<i>Bloom</i>	<i>Petal Fall</i>	<i>Fruit Set (shucks on)</i>
	Red Haven		2	59	39
					<i>Fruit Set (shucks off)</i>
					0
Sweet Cherry			<i>Bloom</i>	<i>Petal Fall</i>	<i>Fruit Set (shucks on)</i>
	Black Pearl		0	8	67
					<i>Fruit Set (shucks off)</i>
					24
Grape			<i>½"</i>	<i>1"</i>	<i>3"</i>
	Cabernet Franc		0	24	70
	Pinot Noir		13	79	8
					<i>5"</i>
					6
					0

<u>Date</u>	Baskerville-Emin (BE)		<u>Field Observations / Trap Catches / Models</u>
	<u>DD Accumulations (previous day NEWA)</u>		
	43 F	50 F	# / trap / day (pheromone trap)
5/10	526.5	266.9	Degree day accumulations beginning 1 January, 2021
			0.0 Speckled Green Fruitworm (SGFW) (0/0)
			2.4 Redbanded Leafroller (RBLR) (0/34)
			3.4 Spotted Tentiform Leafminer (STLM) (25/23)
			0.0 Oriental Fruit Moth (OFM) (0/0)
			0.1 Lesser Apple Worm (LAW) (0/2) First Sustained Catch
			0.1 Codling Moth (CM) (0/1) First Sustained Catch
			0.0 Obliquebanded Leafroller (OBLR) (0/0)
			0.4 Black Stem Borer (BSB) (1/5)
			0.0 Black Stem Borer (ETOH soaked Bolts) (0/0)
			0.0 San Jose Scale (SJS) (0/0)
			0.4 Psylla eggs / leaf (21 eggs / 25 leaves)
			0.0 Psylla nymphs/leaf (0 eggs/ 25 leaves)
			1.91 Weekly Rainfall
			7.63 Total Rainfall (Since 1 March, 2021)

Degree Day Modeling

374	STLM (4/5 Biofix) Eggs hatching and sap feeding mines appearing
233	OFM (4/19 First Catch) Moths flying & 50% of eggs have hatched
32	CM (5/3 First Catch) Moths flying & first eggs laid

Phenology

Crop	Cultivar	Rootstock	Stage(%)		
			<i>Fruit Set</i>	<i>5mm</i>	<i>10mm</i>
Apple					
	Zestar	M9	16	60	24
	Jersey Mac	M9	6	86	8
	Cortland	M9	23	71	6
	McIntosh	M26	63	37	0
	Red Chief	M26	22	78	0
	Ginger Gold	M26	21	69	10
	Smoothie	M26	39	61	0
	Empire	M9T337	31	69	0
	Gala	B9	4	96	0
	Honey Crisp	Nic29	5	95	0
	Fuji	B9	29	71	0
Pear					
	Bartlett		27	42	31
	Bosc		10	65	25
Peach					
	Red Haven		0	99	1
Sweet Cherry					
	Black Pearl		0	80	20
Grape					
		1/2"	1"	3"	5"
	Cabernet Franc	0	23	35	42
	Pinot Noir	27	63	10	0

<u>Date</u>	<u>Baskerville-Emin (BE)</u>		<u># / trap / day (pheromone trap)</u>	<u>Field Observations / Trap Catches / Models</u>
	<u>DD Accumulations (previous day NEWA)</u>	<u>DD Accumulations (previous day NEWA)</u>		
	43 F	50 F		
5/17	611.7	315.5		Degree day accumulations beginning 1 January, 2021
			0.0	Speckled Green Fruitworm (SGFW) (0/0)
			1.3	Redbanded Leafroller (RBLR) (13/5)
			5.6	Spotted Tentiform Leafminer (STLM) (50/28)
			0.4	Oriental Fruit Moth (OFM) (2/3)
			1.1	Lesser Apple Worm (LAW) (5/10)
			3.8	Codling Moth (CM) (38/15)
			0.0	Obliquebanded Leafroller (OBLR) (0/0)
			2.4	Black Stem Borer (BSB) (8/25)
			0.0	Black Stem Borer (ETOH soaked Bolts) (2/0) (0/0)
			0.0	San Jose Scale (SJS) (0/0)
			0.0	Dogwood Borer (DWB) (0/0)
			0.7	Lesser Peachtree Borer (LPTB) (3/7) First Catch
			0.0	Tufted Applebud Moth (TABM) (0/0)
			0.0	Sparganothis (SPAR) (0/0)
			0.0	Fruit Tree Leafroller (0/0)
			0.9	Grape Berry Moth (3/9) First Catch
			0.0	Psylla eggs / leaf (0 eggs / 25 leaves)
			0.0	Psylla nymphs/leaf (0 nymphs/ 25 leaves)
			0.45	Weekly Rainfall
			7.81	Total Rainfall (Since 1 March, 2021)
				Degree Day Modeling
			459	STLM (4/5 Biofix) Eggs hatching and sap feeding mines appearing
			318	OFM (4/19 First Catch) Moths flying & 50% of eggs have hatched
			81	CM (5/3 First Catch) Moths flying & first eggs laid

Phenology

Crop	Cultivar	Rootstock	Stage (%)				
			5mm	10mm	12mm	15mm	
Apple							
	Zester	M9	0	41	41	18	
	Jersey Mac	M9	0	59	30	11	
	Cortland	M9	0	83	17	0	
	McIntosh	M26	36	56	8	0	
	Red Chief	M26	4	77	19	0	
	Ginger Gold	M26	11	34	55	0	
	Smoothie	M26	16	69	15	0	
	Empire	M9T337	0	81	17	2	
	Gala	B9	0	80	13	7	
	Honey Crisp	Nic29	0	71	26	3	
	Fuji	B9	0	71	29	0	
Pear							
	Bartlett		19	59	22	0	
	Bosc		8	32	60	0	
Peach							
	Red Haven		2	58	40	0	
Sweet Cherry							
	Black Pearl		0	5	54	41	
Grape							
	Cabernet Franc		0	0	39	33	28
	Pinot Noir		15	61	24	0	0

Baskerville-Emin (BE)

<u>Date</u>	<u>DD Accumulations (previous day NEWA)</u>		<u>Field Observations / Trap Catches / Models</u>
	43 F	50 F	# / trap / day (pheromone trap)
5/24	793.8	448.6	Degree day accumulations beginning 1 January, 2021
			0.0 Speckled Green Fruitworm (SGFW) (0/0)
			0.3 Redbanded Leafroller (RBLR) (3/1)
			2.3 Spotted Tentiform Leafminer (STLM) (10/22)
			1.4 Oriental Fruit Moth (OFM) (12/8)
			1.2 Lesser Apple Worm (LAW) (7/10)
			9.0 Codling Moth (CM) (54/18)
			0.0 Obliquebanded Leafroller (OBLR) (0/0)
			7.5 Black Stem Borer (BSB) (30/75)
			0.1 Black Stem Borer (ETOH soaked Bolts) (1/3)
			0.0 San Jose Scale (SJS) (0/0)
			0.6 Dogwood Borer (DWB) (6/3) First Catch
			3.0 Lesser Peachtree Borer (LPTB) (32/11)
			0.0 Tufted Applebud Moth (TABM) (0/0)
			0.0 Sparganothis (SPAR) (0/0)
			0.0 Fruit Tree Leafroller (0/0)
			0.8 Grape Berry Moth (6/5)
			3.4 Psylla eggs / leaf (84 eggs / 25 leaves)
			0.6 Psylla nymphs/leaf (15 nymphs/ 25 leaves)
			0.0 Weekly Rainfall
			7.81 Total Rainfall (Since 1 March, 2021)
Degree Day Modeling			
			641 STLM (4/5 Biofix) Both sap and tissue feeding mines are present
			500 OFM (4/19 First Catch) First moth flight ends and egg hatch over Start of second flight expected at 701-1,100 DD
			87 CM (5/20 Biofix) Moths flying & first eggs laid
Fruit Injury			
			30% Ginger Gold (GG) fruit with PC damage
			2% GG fruit with Tarnished Plant Bug (TPB) damage

<u>Date</u>	Baskerville-Emin (BE)		# / trap / day (pheromone trap)	<u>Field Observations / Trap Catches / Models</u>
	<u>DD Accumulations (previous day NEWA)</u>			
	43 F	50 F		
6/1	867.6	501.4		Degree day accumulations beginning 1 January, 2021
			0.0	Speckled Green Fruitworm (SGFW) (0/0)
			0.0	Redbanded Leafroller (RBLR) (0/0)
			0.3	Spotted Tentiform Leafminer (STLM) (2/2)
			0.8	Oriental Fruit Moth (OFM) (10/1)
			0.0	Lesser Apple Worm (LAW) (0/0)
			8.5	Codling Moth (CM) (6/11)
			0.0	Obliquebanded Leafroller (OBLR) (0/0)
			1.4	Black Stem Borer (BSB) (3/17)
			0.4	Black Stem Borer (ETOH soaked Bolts) (2/4)
			0.0	San Jose Scale (SJS) (0/0)
			0.0	San Jose Scale Juvenile (SJS Crawlers) (0/0)
			0.7	Dogwood Borer (DWB) (7/3)
			3.0	Lesser Peachtree Borer (LPTB) (19/23)
			0.0	Tufted Applebud Moth (TABM) (0/0)
			0.0	Sparganothis (SPAR) (0/0)
			0.0	Fruit Tree Leafroller (0/0)
			0.2	Grape Berry Moth (1/2)
			0.0	Apple Maggot (AM) (0.0)
			0.0	Variegated Leafroller (VLR) (0.0)
			0.0	Spotted Wing Drosophila (SWD)
			1.7	Psylla eggs / leaf (42 eggs / 25 leaves)
			0.1	Psylla nymphs/leaf (3 nymphs/ 25 leaves)
			3.42	Weekly Rainfall
			11.23	Total Rainfall (Since 1 March, 2021)

Mite Sampling (# / 25 Leaves)

European Red Mite (ERM)	5
ERM eggs	13
Two Spotted Spider Mite (TSSM)	5
TSSM eggs	34
Apple Rust Mite (ARM)	0
Amblyseius (AMB)	3
Zetzallia mali (ZM)	0

Degree Day Modeling

767	STLM (4/5 Biofix) Both sap and tissue feeding mines are present
626	OFM (4/19 First Catch) First moth flight ends and egg hatch over Start of second flight expected at 701-1,100 DD
168	CM (5/20 Biofix) Moths flying and first eggs laid

Fruit Injury

18%	Ginger Gold (GG) fruit with PC damage
6%	GG fruit with Tarnished Plant Bug (TPB) damage
4%	GG fruit with Mullien Plant Bug (MPB) damage
2%	GG fruit with External Lepidopteran (E. Lep) damage

<u>Date</u>	Baskerville-Emin (BE)		<u>Field Observations / Trap Catches / Models</u>
	<u>DD Accumulations (previous day NEWA)</u>		
	43 F	50 F	# / trap / day (pheromone trap)
6/7	1073.7	643.4	Degree day accumulations beginning 1 January, 2021
			0.0 Speckled Green Fruitworm (SGFW) (0/0)
			0.0 Redbanded Leafroller (RBLR) (0/0)
			3.2 Spotted Tentiform Leafminer (STLM) (32/13)
			0.1 Oriental Fruit Moth (OFM) (1/0)
			0.1 Lesser Apple Worm (LAW) (0/1)
			1.1 Codling Moth (CM) (9/7)
			0.1 Obliquebanded Leafroller (OBLR) (0/1) First Catch
			4.1 Black Stem Borer (BSB) (16/41)
			0.5 Black Stem Borer (ETOH soaked Bolts) (6/1)
			0.0 San Jose Scale (SJS) (0/0)
			0.0 San Jose Scale Juvenile (SJS Crawlers) (0/0)
			0.1 Dogwood Borer (DWB) (1/0)
			1.6 Lesser Peachtree Borer (LPTB) (8/15)
			3.2 Tufted Applebud Moth (TABM) (41/4)
			0.0 Sparganothis (SPAR) (0/0)
			0.0 Fruit Tree Leafroller (0/0)
			0.4 Grape Berry Moth (0/5)
			0.0 Apple Maggot (AM) (0.0)
			0.0 Variegated Leafroller (VLR) (0.0)
			0.0 Spotted Wing Drosophila (SWD)
			2.2 Psylla eggs / leaf (56 eggs / 25 leaves)
			0.2 Psylla nymphs/leaf (6 nymphs/ 25 leaves)
			0.09 Weekly Rainfall
			11.32 Total Rainfall (Since 1 March, 2021)

Mite Sampling (# / 25 Leaves)

European Red Mite (ERM)	79
ERM eggs	85
Two Spotted Spider Mite (TSSM)	9
TSSM eggs	18
Apple Rust Mite (ARM)	65
Amblyseius (AMB)	4
Zetzallia mali (ZM)	0

Degree Day Modeling

921	STLM (4/5 Biofix) 2 nd generation of moths emerging
780	OFM (4/19 First Catch) First moth flight ends and egg hatch over Start of second flight expected at 701-1,100 DD
281	CM (5/20 Biofix) Moth flight peaks & majority of eggs hatch

Fruit Injury

34%	Ginger Gold (GG) fruit with PC damage
6%	GG fruit with Tarnished Plant Bug (TPB) damage

<u>Date</u>	<u>Baskerville-Emin (BE)</u>		<u># / trap / day (pheromone trap)</u>	<u>Field Observations / Trap Catches / Models</u>
	<u>DD Accumulations (previous day NEWA)</u>			
	43 F	50 F		
6/14	1275.0	795.7		Degree day accumulations beginning 1 January, 2021
			0.0	Speckled Green Fruitworm (SGFW) (0/0)
			0.6	Redbanded Leafroller (RBLR) (7/2)
			15.2	Spotted Tentiform Leafminer (STLM) (120/93)
			0.1	Oriental Fruit Moth (OFM) (1/0)
			0.0	Lesser Apple Worm (LAW) (0/0)
			4.7	Codling Moth (CM) (42/24)
			0.6	Obliquebanded Leafroller (OBLR) (3/1)
			3.1	Black Stem Borer (BSB) (8/35)
			0.2	Black Stem Borer (ETOH soaked Bolts) (2/1)
			0.0	San Jose Scale (SJS) (0/0)
			0.0	San Jose Scale Juvenile (SJS Crawlers) (0/0)
			0.1	Dogwood Borer (DWB) (1/0)
			2.5	Lesser Peachtree Borer (LPTB) (14/21)
			8.1	Tufted Applebud Moth (TABM) (50/64)
			0.0	Sparganothis (SPAR) (0/0)
			0.0	Fruit Tree Leafroller (0/0)
			0.1	Grape Berry Moth (0/2)
			0.0	Apple Maggot (AM) (0.0)
			0.0	Variegated Leafroller (VLR) (0.0)
			0.0	Spotted Wing Drosophila (SWD) (0/0)
			2.0	Psylla eggs / leaf (49 eggs / 25 leaves)
			6.8	Psylla nymphs/leaf (171 nymphs / 25 leaves)
			0.15	Weekly Rainfall
			11.47	Total Rainfall (Since 1 March, 2021)

Mite Sampling

12.6	European Red Mite (ERM)/ leaf (315/ 25 leaves)
64.88	ERM eggs/ leaf (1,622/ 25 leaves)
2.2	Two Spotted Spider Mite (TSSM)/ leaf (55/ 25 leaves)
18.04	TSSM eggs/ leaf (451/ 25 leaves)
9.24	Apple Rust Mite (ARM)/ leaf (231/ 25 leaves)
0.0	Amblyseius Mite (AMB/ leaf (0/ 25 leaves)
0.0	Zetzellia Mali (Z. mali)/ leaf (0/ 25 leaves)

Degree Day Modeling

167	STLM (6/8 Biofix 2 nd gen flight) 2 nd generation of moths flying and laying eggs. Eggs from 2 nd gen hatch at 690-840 DD.
981	OFM (4/19 First Catch) 2 nd generation moths emerge.
434	CM (5/20 Biofix) Moth flight peaks & majority of eggs hatch
201	OBLR (6/7 First Catch) Peak moth flight, first egg hatch

Fruit Injury

26%	Ginger Gold (GG) fruit with PC damage
6%	GG fruit with Tarnished Plant Bug (TPB) damage

<u>Date</u>	<u>Baskerville-Emin (BE)</u>		<u># / trap / day (pheromone trap)</u>	<u>Field Observations / Trap Catches / Models</u>
	<u>DD Accumulations (previous day NEWA)</u>			
	43 F	50 F		
6/21	1437.4	911.8		Degree day accumulations beginning 1 January, 2021
			0.0	Speckled Green Fruitworm (SGFW) (0/0)
			3.4	Redbanded Leafroller (RBLR) (23/32)
			19.9	Spotted Tentiform Leafminer (STLM) (150/168)
			0.1	Oriental Fruit Moth (OFM) (1/0)
			0.0	Lesser Apple Worm (LAW) (0/0)
			1.9	Codling Moth (CM) (13/18)
			0.4	Obliquebanded Leafroller (OBLR) (3/4)
			1.9	Black Stem Borer (BSB) (4/26)
			0.0	Black Stem Borer (ETOH soaked Bolts) (0/0)
			0.0	San Jose Scale (SJS) (0/0)
			0.0	San Jose Scale Juvenile (SJS Crawlers) (0/0)
			0.1	Dogwood Borer (DWB) (1/0)
			2.5	Lesser Peachtree Borer (LPTB) (8/27)
			8.6	Tufted Applebud Moth (TABM) (65/72)
			0.0	Sparganothis (SPAR) (0/0)
			0.1	Fruit Tree Leafroller (1/1) First Catch
			0.1	Grape Berry Moth (1/0)
			0.1	Apple Maggot (AM) (0/2) First Catch
			0.0	Variegated Leafroller (VLR) (0.0)
			0.6	Spotted Wing Drosophila (SWD) (3/7)
			3.9	Psylla eggs / leaf (98 eggs / 25 leaves)
			3.1	Psylla nymphs/leaf (78 nymphs / 25 leaves)
			0.76	Weekly Rainfall
			12.23	Total Rainfall (Since 1 March, 2021)

Mite Sampling

69.68	European Red Mite (ERM)/ leaf (1,742/ 25 leaves)
116.88	ERM eggs/ leaf (2,922/ 25 leaves)
7.76	Two Spotted Spider Mite (TSSM)/ leaf (194/ 25 leaves)
41.44	TSSM eggs/ leaf (1,036/ 25 leaves)
11.8	Apple Rust Mite (ARM)/ leaf (295/ 25 leaves)
0.3	Amblyseius Mite (AMB/ leaf (8/ 25 leaves)
0.0	Zetzellia Mali (Z. mali)/ leaf (0/ 25 leaves)

Degree Day Modeling

329	STLM (6/8 Biofix 2 nd gen flight) 2 nd generation of moths flying and laying eggs. Eggs from 2 nd gen hatch at 690-840 DD.
1144	OFM (4/19 First Catch) 2 nd generation moths emerge.
550	CM (5/20 Biofix) Moth flight peaks & majority of eggs hatch.
364	OBLR (6/7 First Catch) Peak moth flight, first egg hatch.

Fruit Injury

32%	Ginger Gold (GG) fruit with PC damage
8%	GG fruit with Tarnished Plant Bug (TPB) damage

<u>Date</u>	<u>Baskerville-Emin (BE)</u>		<u># / trap / day (pheromone trap)</u>	<u>Field Observations / Trap Catches / Models</u>
	<u>DD Accumulations (previous day NEWA)</u>			
	43 F	50 F		
6/28	1614.2	1041.1		Degree day accumulations beginning 1 January, 2021
			0.0	Speckled Green Fruitworm (SGFW) (0/0)
			4.2	Redbanded Leafroller (RBLR) (33/17)
			31.8	Spotted Tentiform Leafminer (STLM) (211/170)
			0.0	Oriental Fruit Moth (OFM) (0/0)
			0.1	Lesser Apple Worm (LAW) (0/1)
			1.4	Codling Moth (CM) (9/8)
			0.3	Obliquebanded Leafroller (OBLR) (2/2)
			3.8	Black Stem Borer (BSB) (4/42)
			0.0	Black Stem Borer (ETOH soaked Bolts) (0/0)
			0.0	San Jose Scale (SJS) (0/0)
			0.0	San Jose Scale Juvenile (SJS Crawlers) (0/0)
			0.3	Dogwood Borer (DWB) (3/1)
			1.6	Lesser Peachtree Borer (LPTB) (3/20)
			9.8	Tufted Applebud Moth (TABM) (62/56)
			0.1	Sparganothis (SPAR) (1/0) First Catch
			0.0	Fruit Tree Leafroller (0/0)
			0.7	Grape Berry Moth (4/4)
			0.5	Apple Maggot (AM) (4/6/0)
			0.0	Variegated Leafroller (VLR) (0/0)
			3.3	Spotted Wing Drosophila (SWD) (9/20)
			3.1	Psylla eggs / leaf (78 eggs / 25 leaves)
			5.0	Psylla nymphs/leaf (124 nymphs / 25 leaves)
			0.54	Weekly Rainfall
			12.77	Total Rainfall (Since 1 March, 2021)

Mite Sampling

6.9	European Red Mite (ERM)/ leaf (172/ 25 leaves)
20.8	ERM eggs/ leaf (519/ 25 leaves)
3.0	Two Spotted Spider Mite (TSSM)/ leaf (75/ 25 leaves)
23.4	TSSM eggs/ leaf (584/ 25 leaves)
4.8	Apple Rust Mite (ARM)/ leaf (120/ 25 leaves)
0.1	Amblyseius Mite (AMB/ leaf (3/ 25 leaves)
0.0	Zetzellia Mali (Z. mali)/ leaf (0/ 25 leaves)

Degree Day Modeling

506	STLM (6/8 Biofix 2 nd gen flight) 2 nd generation moths flying and laying eggs. Eggs from 2 nd gen hatch at 690-840 DD. OFM. Based on degree days second flight of OFM has started; Trap catch numbers too low to determine 2 nd generation biofix
679	CM (5/20 Biofix) 1 st moth flight over and egg hatch complete.
541	OBLR (6/7 First Catch) Peak egg hatch

Fruit Injury

26%	Ginger Gold (GG) fruit with PC damage
6%	GG fruit with Tarnished Plant Bug (TPB) damage
2%	GG fruit with Lepidopteran feeding
8%	GG fruit with Codling moth feeding
2%	GG fruit with Apple Maggot damage

<u>Date</u>	<u>Baskerville-Emin (BE)</u>		<u># / trap / day (pheromone trap)</u>	<u>Field Observations / Trap Catches / Models</u>
	<u>DD Accumulations (previous day NEWA)</u>			
	43 F	50 F		
7/6	1855.4	1226.3		Degree day accumulations beginning 1 January, 2021
			0.0	Speckled Green Fruitworm (SGFW) (0/0)
			3.0	Redbanded Leafroller (RBLR) (26/22)
			19.9	Spotted Tentiform Leafminer (STLM) (141/177)
			0.0	Oriental Fruit Moth (OFM) (0/0)
			0.0	Lesser Apple Worm (LAW) (0/0)
			0.8	Codling Moth (CM) (9/4)
			0.1	Obliquebanded Leafroller (OBLR) (1/0)
			1.6	Black Stem Borer (BSB) (3/22)
			0.1	Black Stem Borer (ETOH soaked Bolts) (1/0)
			0.6	San Jose Scale (SJS) (10/0) First Catch
			0.0	San Jose Scale Juvenile (SJS Crawlers) (0/0)
			0.5	Dogwood Borer (DWB) (2/6)
			2.5	Lesser Peachtree Borer (LPTB) (12/23)
			6.6	Tufted Applebud Moth (TABM) (53/53)
			0.1	Sparganothis (SPAR) (2/0)
			0.0	Fruit Tree Leafroller (0/0)
			0.2	Grape Berry Moth (3/0)
			0.6	Apple Maggot (AM) (4/6/2)
			0.4	Variegated Leafroller (VLR) (4/1) First Catch
			2.7	Spotted Wing Drosophila (SWD) (19/24)
			8.0	Psylla eggs / leaf (201 eggs / 25 leaves)
			7.3	Psylla nymphs/leaf (182 nymphs / 25 leaves)
			0.80	Weekly Rainfall
			13.57	Total Rainfall (Since 1 March, 2021)

Mite Sampling

0.4	European Red Mite (ERM)/ leaf (10/ 25 leaves)
44.08	ERM eggs/ leaf (1102/ 25 leaves)
0.04	Two Spotted Spider Mite (TSSM)/ leaf (1/ 25 leaves)
6.08	TSSM eggs/ leaf (152/ 25 leaves)
0.7	Apple Rust Mite (ARM)/ leaf (17/ 25 leaves)
0.1	Amblyseius Mite (AMB/ leaf (3/ 25 leaves)
0.0	Zetzellia Mali (Z. mali)/ leaf (0/ 25 leaves)

Degree Day Modeling

747	STLM (6/8 Biofix 2 nd gen flight) 2 nd generation eggs hatch & sap feeding mines appear.
	OFM (2 nd gen) First eggs hatch at 150-200 DD since trap catch; Trap catch numbers too low to determine 2 nd generation biofix
864	CM (5/20 Biofix) 2 nd generation of moths emerge.
782	OBLR (6/7 First Catch) Larvae damaging fruit.
315	AM (6/21 First Catch) Adults and first eggs.

Fruit Injury

56%	Ginger Gold (GG) fruit with PC damage
4%	GG fruit with Tarnished Plant Bug (TPB) damage
2%	GG fruit with Lepidopteran feeding
8%	GG fruit with Codling moth feeding
2%	GG fruit with Apple Maggot damage

<u>Date</u>	<u>Baskerville-Emin (BE)</u>		<u># / trap / day (pheromone trap)</u>	<u>Field Observations / Trap Catches / Models</u>
	<u>DD Accumulations (previous day NEWA)</u>			
	43 F	50 F		
7/13	2055.7	1377.1		Degree day accumulations beginning 1 January, 2021
			0.0	Speckled Green Fruitworm (SGFW) (0/0)
			2.9	Redbanded Leafroller (RBLR) (18/22)
			14.4	Spotted Tentiform Leafminer (STLM) (108/94)
			0.0	Oriental Fruit Moth (OFM) (0/0)
			0.1	Lesser Apple Worm (LAW) (1/1)
			0.9	Codling Moth (CM) (9/3)
			0.0	Obliquebanded Leafroller (OBLR) (0/0)
			0.4	Black Stem Borer (BSB) (0/6)
			0.0	Black Stem Borer (ETOH soaked Bolts) (0/0)
			19.4	San Jose Scale (SJS) (104/167) First Sustained Catch
			0.0	San Jose Scale Juvenile (SJS Crawlers) (0/0)
			0.7	Dogwood Borer (DWB) (6/4)
			1.1	Lesser Peachtree Borer (LPTB) (4/11)
			3.1	Tufted Applebud Moth (TABM) (21/22)
			0.0	Sparganothis (SPAR) (0/0)
			0.0	Fruit Tree Leafroller (0/0)
			0.0	Grape Berry Moth (0/0)
			2.6	Apple Maggot (AM) (4/5/0)
			0.0	Variegated Leafroller (VLR) (0/0)
			1.5	Spotted Wing Drosophila (SWD) (12/9)
			1.6	Psylla eggs / leaf (41 eggs / 25 leaves)
			3.8	Psylla nymphs/leaf (95 nymphs / 25 leaves)
			3.27	Weekly Rainfall
			16.84	Total Rainfall (Since 1 March, 2021)

Mite Sampling

0.0	European Red Mite (ERM)/ leaf (0/ 25 leaves)
13.8	ERM eggs/ leaf (344/ 25 leaves)
0.0	Two Spotted Spider Mite (TSSM)/ leaf (0/ 25 leaves)
1.5	TSSM eggs/ leaf (38/ 25 leaves)
0.4	Apple Rust Mite (ARM)/ leaf (9/ 25 leaves)
0.1	Amblyseius Mite (AMB/ leaf (2/ 25 leaves)
0.0	Zetzellia Mali (Z. mali)/ leaf (0/ 25 leaves)

Degree Day Modeling

947	STLM (6/8 Biofix 2 nd gen flight) 2 nd generation eggs hatch & sap feeding mines on leaves. OFM (2 nd gen) Trap catch numbers too low to determine 2 nd generation biofix
1015	CM (5/20 Biofix) 2 nd generation of moths emerge.
982	OBLR (6/7 First Catch) First adult flight almost over, large larvae.
465	AM (6/21 First Catch) Adults and first eggs.
151	SJS (7/6 First Catch) 1 st generation crawlers developing.

Fruit Injury

4%	Ginger Gold (GG) fruit with PC damage
8%	GG fruit with Tarnished Plant Bug (TPB) damage
2%	GG fruit with Codling moth feeding

<u>Date</u>	<u>Baskerville-Emin (BE)</u>		<u># / trap / day (pheromone trap)</u>	<u>Field Observations / Trap Catches / Models</u>
	<u>DD Accumulations (previous day NEWA)</u>			
	43 F	50 F		
7/19	2251.0	1530.9		Degree day accumulations beginning 1 January, 2021
			0.0	Speckled Green Fruitworm (SGFW) (0/0)
			3.3	Redbanded Leafroller (RBLR) (36/10)
			10.9	Spotted Tentiform Leafminer (STLM) (76/76)
			0.0	Oriental Fruit Moth (OFM) (0/0)
			0.3	Lesser Apple Worm (LAW) (2/2)
			1.3	Codling Moth (CM) (12/6)
			0.0	Obliquebanded Leafroller (OBLR) (0/0)
			2.1	Black Stem Borer (BSB) (2/27)
			87.9	San Jose Scale (SJS) (815/415)
			0.0	San Jose Scale Juvenile (SJS Crawlers) (0/0)
			1.1	Dogwood Borer (DWB) (2/13)
			0.9	Lesser Peachtree Borer (LPTB) (10/2)
			0.1	Tufted Applebud Moth (TABM) (1/1)
			0.0	Sparganothis (SPAR) (0/0)
			0.0	Fruit Tree Leafroller (0/0)
			0.0	Grape Berry Moth (0/0)
			3.9	Apple Maggot (AM) (41/29/11)
			0.0	Variegated Leafroller (VLR) (0/0)
			1.9	Spotted Wing Drosophila (SWD) (12/15)
			1.1	Psylla eggs / leaf (27 eggs / 25 leaves)
			0.3	Psylla nymphs/leaf (7 nymphs / 25 leaves)
			1.28	Weekly Rainfall
			18.12	Total Rainfall (Since 1 March, 2021)

Mite Sampling

0.1	European Red Mite (ERM)/ leaf (0/ 25 leaves)
4.04	ERM eggs/ leaf (344/ 25 leaves)
0.0	Two Spotted Spider Mite (TSSM)/ leaf (0/ 25 leaves)
0.2	TSSM eggs/ leaf (38/ 25 leaves)
0.0	Apple Rust Mite (ARM)/ leaf (9/ 25 leaves)
0.6	Amblyseius Mite (AMB/ leaf (2/ 25 leaves)
0.0	Zetzellia Mali (Z. mali)/ leaf (0/ 25 leaves)

Degree Day Modeling

1143	STLM (6/8 Biofix 2 nd gen flight) 2 nd generation eggs & sap and tissue feeding mines on leaves.
1169	CM (5/20 Biofix) 2 nd generation of moths emerge.
1177	OBLR (6/7 First Catch) First adult flight almost over, large larvae.
619	AM (6/21 First Catch) Adults and first eggs.
305	SJS (7/6 First Catch) 1 st generation crawlers emerge, migrate & begin feeding.

Fruit Injury

14%	Ginger Gold (GG) fruit with PC damage
4%	GG fruit with Tarnished Plant Bug (TPB) damage
10%	GG fruit with external lepidopteran feeding
12%	GG fruit with Codling moth feeding
4%	GG fruit with AM feeding
