

**2009 GROWTH STAGES - NW Michigan Horticultural Research Station
Traverse City, MI**

Date	Time	Growing Degree Days - Base 42	Bartlett Pear	Potomac Pear	Mac	Gala	Red Delicious	Golden Delicious	Montmorency	Balaton	Hedelfingen	Gold	Napoleon	Chardonnay	58-900-12 Plum	Apricot
4/13/09	11:00 AM	54	Dormant	Dormant	Dormant	Dormant	Dormant	Dormant	Dormant	Dormant	Dormant	Dormant	Dormant	Dormant	Dormant	Dormant
4/15/09	10:30 AM	59	Ear. Bud Swell	Ear. Bud Swell	Ear. Silver Tip	Dormant	Ear. Silver Tip	Ear. Silver Tip	Dormant	Ear. Bud Swell	Ear. Bud Swell	Ear. Bud Swell	Ear. Bud Swell	Dormant	Dormant	Ear. Bud Swell
4/20/09	2:00 PM	107	Bud Swell	Bud Swell	Silver Tip	Green Tip	Silver Tip	Silver Tip	Bud Swell	Side Green	Side Green	Side Green	Side Green	Scale Cracked	Ear. Bud Swell	Bud Burst
4/27/09	8:30 AM	147	Bud Burst	Bud Burst	Green Tip	1/4" Green	Green Tip	1/4" Green	Green Tip	Early Bud Burst	Early Bud Burst	Early Bud Burst	Early Bud Burst	Ear. Bud Swell	Bud Burst	Bud Burst
5/1/09	10:30 AM	191	Bud Burst	Green Cluster	1/2" Green	1/2" Green	1/2" Green	1/2" Green	Green Tip	Bud Burst	Bud Burst	Bud Burst	Late Bud Burst	Ear. Bud Swell	Green Cluster	White Bud
5/4/09	1:00 PM	223	Green Cluster	Green Cluster	Tight Cluster	Tight Cluster	Tight Cluster	Tight Cluster	Early Bud Burst	Late Bud Burst	Early White Bud	Late Bud Burst	Early White Bud	Ear. Bud Swell	Green Cluster	90% Bloom
5/7/09	8:30 AM	260	Early White Bud	Early White Bud	Tight Cluster	Tight Cluster	Tight Cluster	Tight Cluster	Early White Bud	Early White Bud	90% Bloom	1st Bloom	90% Bloom	Ear. Bud Swell	White Bud	Ear. Petal Fall
5/8/09	2:00 PM	290	White Bud	White Bud	Pre Pink	Tight Cluster	Pink	Pre Pink	1st Bloom	White Bud	Full Bloom	60% Bloom	Full Bloom	Bud Swell	1st Bloom	Petal Fall
5/11/09	11:30 AM	306	White Bud	1st Bloom	Pink	Tight Cluster	Pink	Early Pink	15% Bloom	1st Bloom	Full Bloom	80% Bloom	Full Bloom	Bud Swell	1st Bloom	Late Petal Fall
5/13/09	1:30 PM	330	50% Bloom	75% Bloom	Open Cluster	Pink	Open Cluster	Pink	80% Bloom	80% Bloom	Early Petal Fall	Full Bloom	Early Petal Fall	Bud Swell	90% Bloom	In the Shuck
5/15/09	1:30 PM	357	80% Bloom	Full Bloom	Opn Cluster	Opn Cluster	Opn Cluster	Opn Cluster	Full Bloom	Full Bloom	Petal Fall	Early Petal Fall	Petal Fall	Bud Burst	Full Bloom	Early Shuck Split
5/18/09	4:00 PM	380	Full Bloom	Early Petal Fall	80% King Bloom	50% King Bloom	50% King Bloom	80% King Bloom	Early Petal Fall	Early Petal Fall	Late Petal Fall	Early Petal Fall	Late Petal Fall	Bud Burst	Early Petal Fall	Early Shuck Split
5/22/09	4:00 PM	467	Petal Fall	Petal Fall	Early Petal Fall	90% Bloom	90% Bloom	80% Bloom	Late Petal Fall	Late Petal Fall	Lt. Shuck Split	Shuck Split	Lt. Shuck Split	1" - 3" Shoots	Petal Fall	Lt. Shuck Split
5/25/09	12:00 PM	511	6 mm Fruit	8 mm Fruit	Petal Fall	Early Petal Fall	Early Petal Fall	Early Petal Fall	Early Shuck Split	In the Shuck	11 mm Fruit	8 mm Fruit	7 mm Fruit	1" - 3" Shoots	Late Petal Fall	12 mm Fruit
5/29/09	4:00 PM	560	7 mm Fruit	9 mm Fruit	8 mm Fruit	Petal Fall	8 mm Fruit	Petal Fall	8 mm Fruit	Early Shuck Split	11 mm Fruit	11 mm Fruit	11 mm Fruit	1" - 3" Shoots	7 mm Fruit	17 mm Fruit
6/1/09	5:00 PM	587	9 mm Fruit	11 mm Fruit	8 mm Fruit	8 mm Fruit	9 mm Fruit	8 mm Fruit	9 mm Fruit	8 mm Fruit	12 mm Fruit	12 mm Fruit	12 mm Fruit	4" - 8" Shoots	7 mm Fruit	20 mm Fruit
6/5/09	10:00 AM	631	11 mm Fruit	12 mm Fruit	8 mm Fruit	8 mm Fruit	10 mm Fruit	9 mm Fruit	11 mm Fruit	10 mm Fruit	12 mm Fruit	13 mm Fruit	13 mm Fruit	4" - 8" Shoots	7 mm Fruit	24 mm Fruit
6/8/09	4:30 PM	662	11 mm Fruit	13 mm Fruit	10 mm Fruit	8 mm Fruit	11 mm Fruit	11 mm Fruit	12 mm Fruit	11 mm Fruit	13 mm Fruit	13 mm Fruit	13 mm Fruit	4" - 8" Shoots	8 mm Fruit	26 mm Fruit
6/12/09	4:30 PM	718	12 mm Fruit	15 mm Fruit	12 mm Fruit	10 mm Fruit	13 mm Fruit	13 mm Fruit	12 mm Fruit	12 mm Fruit	13 mm Fruit	13 mm Fruit	13 mm Fruit	4" - 8" Shoots	9 mm Fruit	28 mm Fruit
6/16/09	7:30 AM	801	13 mm Fruit	17 mm Fruit	15 mm Fruit	14 mm Fruit	17 mm Fruit	13 mm Fruit	12 mm Fruit	12 mm Fruit	14 mm Fruit	13 mm Fruit	14 mm Fruit	10" - 16" Shoots	11 mm Fruit	30 mm Fruit
6/19/09	4:30 PM	892	16 mm Fruit	20 mm Fruit	19 mm Fruit	17 mm Fruit	23 mm Fruit	17 mm Fruit	13 mm Fruit	13 mm Fruit	15 mm Fruit	14 mm Fruit	14 mm Fruit	10" - 16" Shoots	14 mm Fruit	32 mm Fruit
6/22/09	3:30 PM	980	17 mm Fruit	22 mm Fruit	21 mm Fruit	19 mm Fruit	25 mm Fruit	19 mm Fruit	13 mm Fruit	13 mm Fruit	16 mm Fruit	14 mm Fruit	15 mm Fruit	10" - 16" Shoots	16 mm Fruit	33 mm Fruit
6/29/09	3:30 PM	1201	21 mm Fruit	26 mm Fruit	26 mm Fruit	23 mm Fruit	28 mm Fruit	23 mm Fruit	14 mm Fruit	14 mm Fruit	19 mm Fruit	17 mm Fruit	18 mm Fruit	50% Bloom	19 mm Fruit	33 mm Fruit
7/7/09	8:30 AM	1331	23 mm Fruit	30 mm Fruit	31 mm Fruit	30 mm Fruit	32 mm Fruit	30 mm Fruit	17 mm Fruit	17 mm Fruit	21 mm Fruit	19 mm Fruit	21 mm Fruit	Late Bloom	23 mm Fruit	34 mm Fruit
7/13/09	4:30 PM	1490	26 mm Fruit	35 mm Fruit	36 mm Fruit	33 mm Fruit	38 mm Fruit	33 mm Fruit	19 mm Fruit	19 mm Fruit	23 mm Fruit	21 mm Fruit	22 mm Fruit	Late Bloom	25 mm Fruit	36 mm Fruit
7/21/09	8:30 AM	1644	30 mm Fruit	39 mm Fruit	42 mm Fruit	39 mm Fruit	41 mm Fruit	40 mm Fruit	19 mm Fruit	20 mm Fruit	23 mm Fruit	22 mm Fruit	Harvested	Buck Shot Berries	26 mm Fruit	40 mm Fruit
7/27/09	8:30 AM	1810	32 mm Fruit	43 mm Fruit	48 mm Fruit	44 mm Fruit	43 mm Fruit	46 mm Fruit	Harvested	22 mm Fruit	Harvested	Harvested	Harvested	Buck Shot Berries	28 mm Fruit	43 mm Fruit
8/3/09	4:00 PM	1985	36 mm Fruit	46 mm Fruit	54 mm Fruit	46 mm Fruit	46 mm Fruit	56 mm Fruit	Harvested	Nearing Harvest	Harvested	Harvested	Harvested	Buck Shot Berries	29 mm Fruit	Harvested
8/10/09	4:30 PM	2160	40 mm Fruit	50 mm Fruit	60 mm Fruit	48 mm Fruit	52 mm Fruit	58 mm Fruit	Harvested	Harvested	Harvested	Harvested	Harvested	Berry Touch	33 mm Fruit	Harvested
8/17/09	4:30 PM	2375	44 mm Fruit	55 mm Fruit	64 mm Fruit	51 mm Fruit	62 mm Fruit	59 mm Fruit	Harvested	Harvested	Harvested	Harvested	Harvested	Berry Touch	35 mm Fruit	Harvested
8/24/09	4:30 PM	2540	46 mm Fruit	58 mm Fruit	69 mm Fruit	57 mm Fruit	64 mm Fruit	61 mm Fruit	Harvested	Harvested	Harvested	Harvested	Harvested	Green Fruit	37 mm Fruit	Harvested
8/31/09	4:00 PM	2669	49 mm Fruit	59 mm Fruit	71 mm Fruit	59 mm Fruit	66 mm Fruit	63 mm Fruit	Harvested	Harvested	Harvested	Harvested	Harvested	Green Fruit	38 mm Fruit	Harvested
9/8/09	12:00 PM	2843	Harvested	Harvested	79 mm Fruit	62 mm Fruit	68 mm Fruit	66 mm Fruit	Harvested	Harvested	Harvested	Harvested	Harvested	Green Fruit	Harvested	Harvested
9/14/09	3:00 PM	3005	Harvested	Harvested	80 mm Fruit	63 mm Fruit	69 mm Fruit	68 mm Fruit	Harvested	Harvested	Harvested	Harvested	Harvested	Veraison	Harvested	Harvested
9/21/09	3:00 PM	3140	Harvested	Harvested	80 mm Fruit	64 mm Fruit	69 mm Fruit	69 mm Fruit	Harvested	Harvested	Harvested	Harvested	Harvested	Veraison	Harvested	Harvested
9/28/09	4:00 PM	3276	Harvested	Harvested	Harvested	64 mm Fruit	69 mm Fruit	70 mm Fruit	Harvested	Harvested	Harvested	Harvested	Harvested	Colored Fruit	Harvested	Harvested