

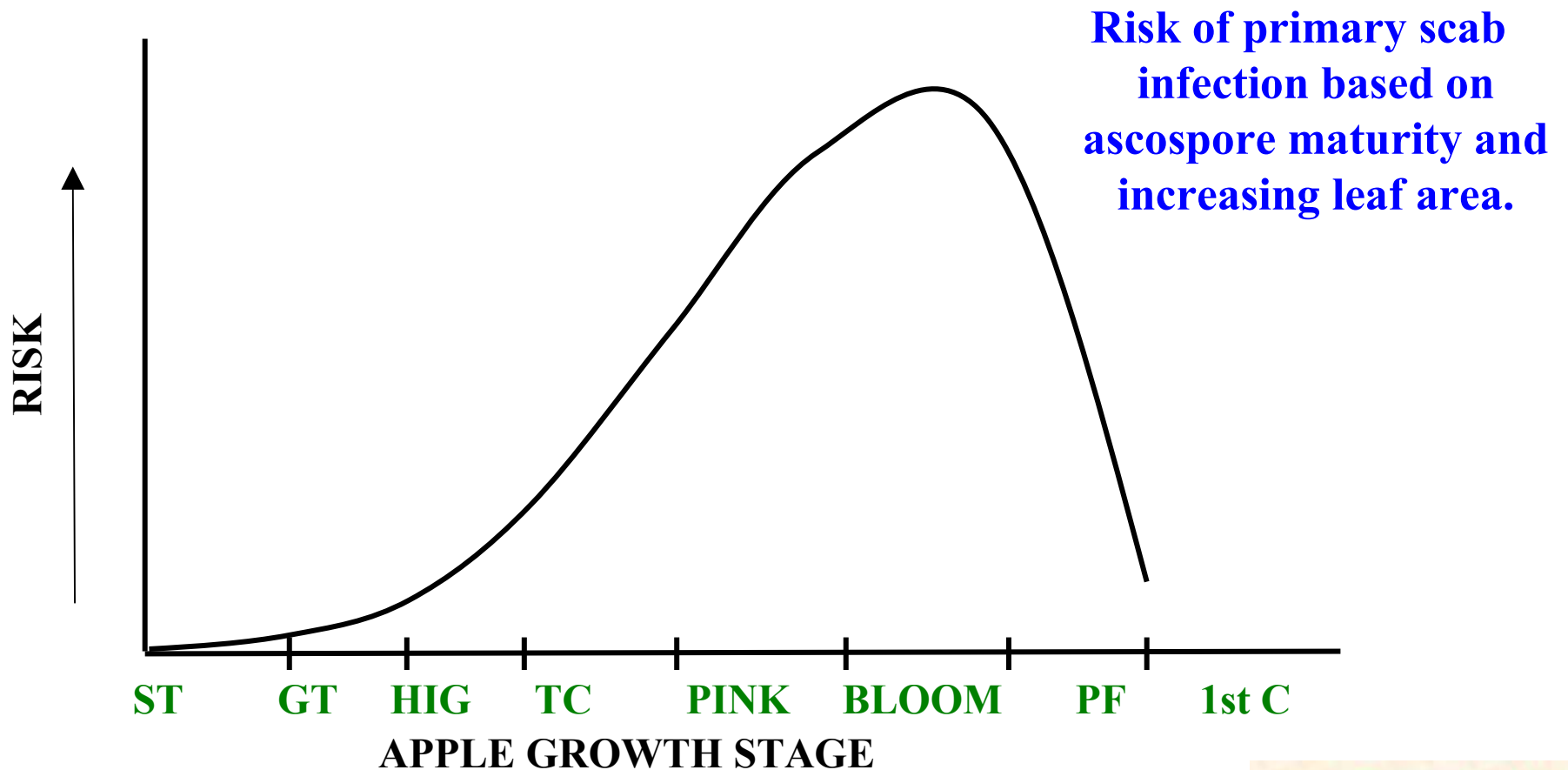
FUNGICIDE STRATEGIES FOR APPLE SCAB - 2010

Dr. George Sundin & Amy Irish-Brown

Fungicide Strategies for Apple 2010

- Limited modes of action
- Use strobilurins with caution (tank-mix with EBDC)
- EBDC's
- Captan
- Anilinopyrimidines
 - Vangard, Scala
- 2nd generation SI's -- Indar, Inspire Super
- Copper – possible green tip spray

Start early -- do not let disease get started at green tip!!



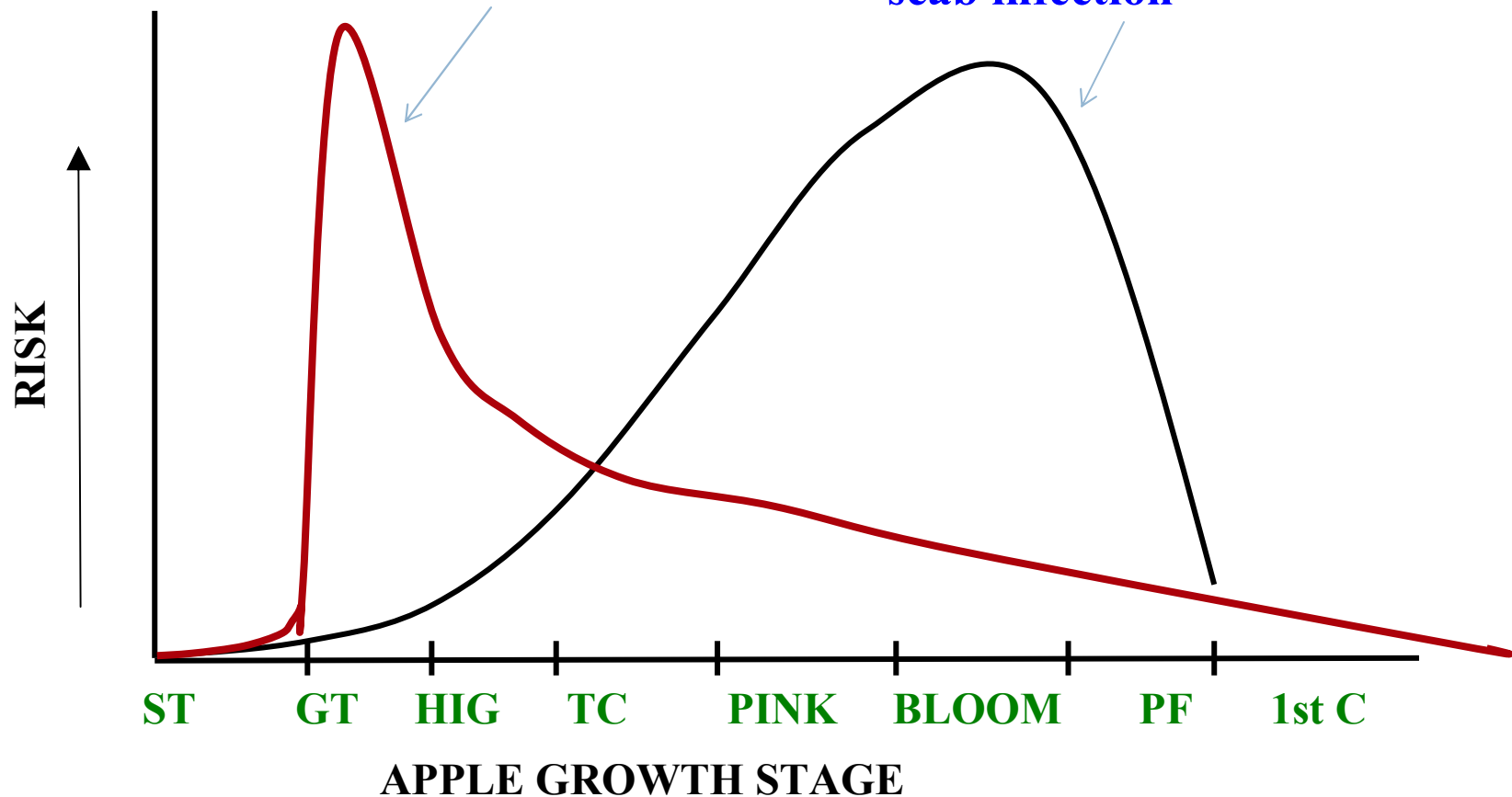
Dave Rosenberger



Apple Scab Control Issues – 2010

Probability of economic loss from scab control failures in commercial orchards

Risk of primary scab infection



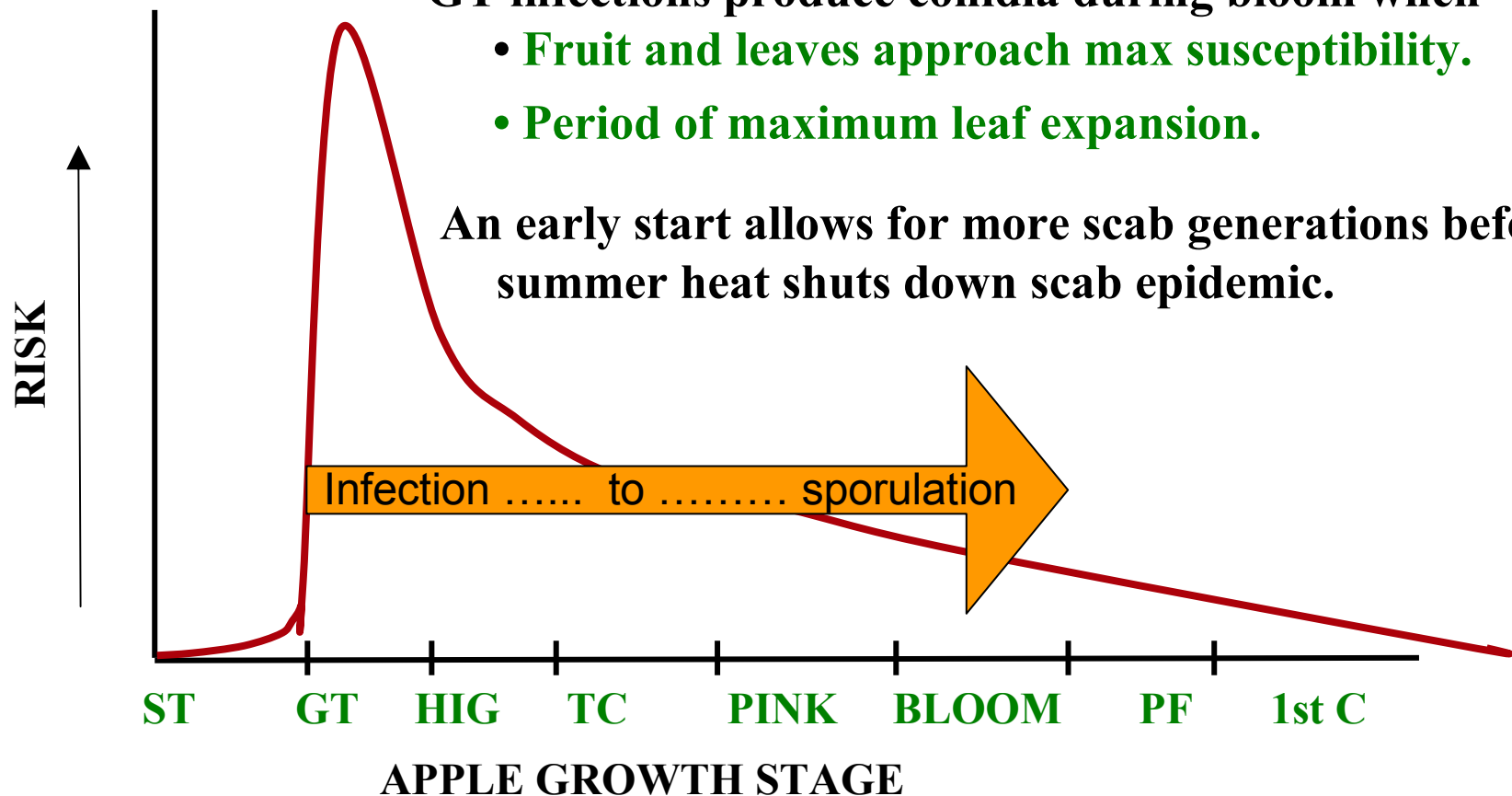
Apple Scab Control Issues – 2010

What explains this risk curve ?

GT infections produce conidia during bloom when –

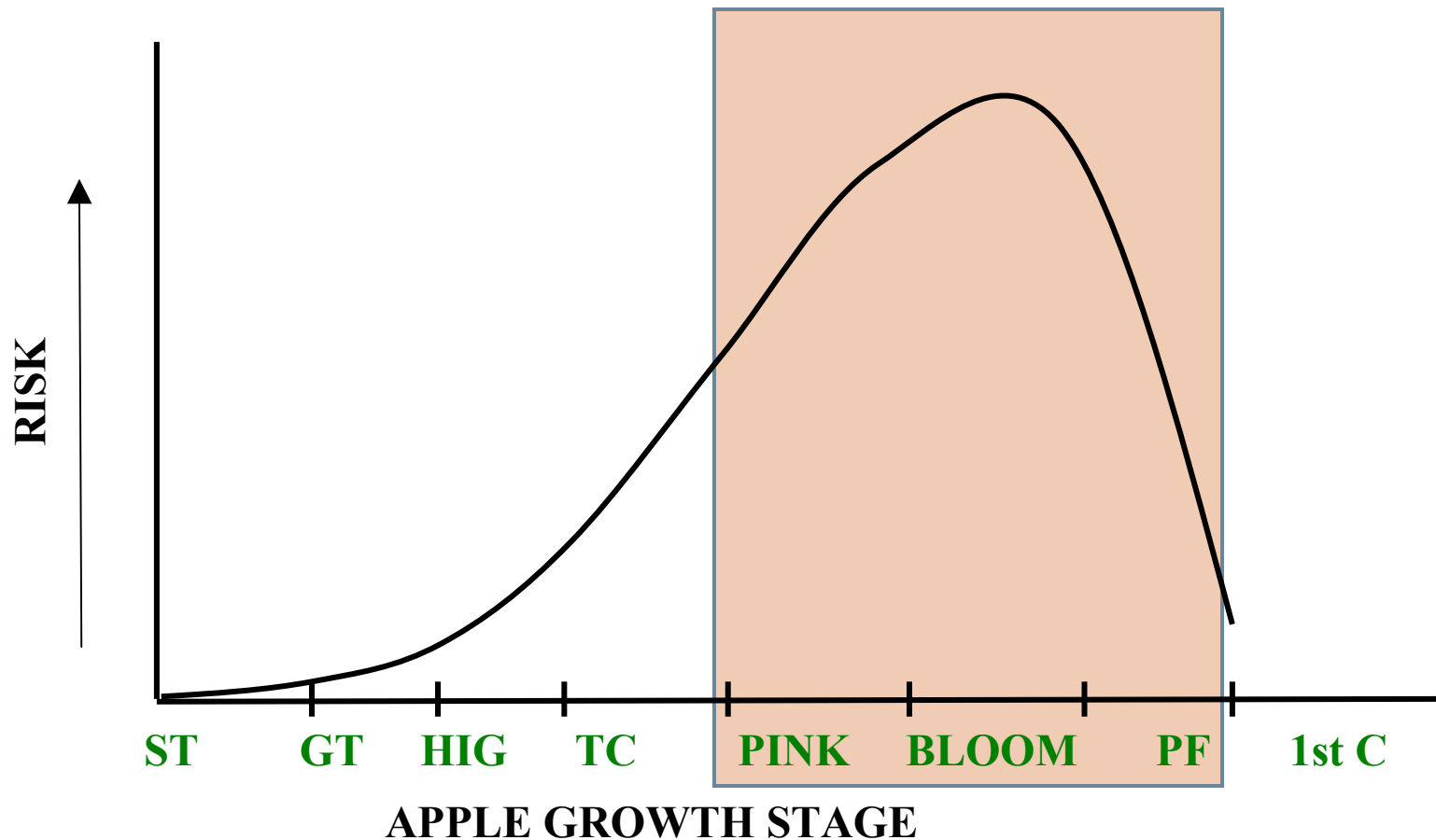
- Fruit and leaves approach max susceptibility.
- Period of maximum leaf expansion.

An early start allows for more scab generations before summer heat shuts down scab epidemic.



Pink to petal fall -- traditionally the period of most primary inoculum

- Insist on 100% control; protectant strategy for fungicide use



2009 Primary Apple Scab Infections

Final Version

Sparta

Rain No.	Stage (McIntosh)	Date	Start Time	Rainfall (in.)	Wet Hours	Ave. Temp F	Mills Severity	Spores /Rod*	Spore Index	DD Base 32	% Mature Spores	Predicted Lesion Date	Date Lesion Found
	1st Green	4/12								0			
1	1st Green	4/14	5 AM	0.06	14	41	None	1982	Light	17	1%	—	
2	1st Green	4/15	6 AM	0.01	2	41	None	0**	—	36	—	—	
3	1/4" Green	4/19	6 PM	1.06	59	38	Moderate	4635	Moderate	116	3%	5/5	5/8
4	1/2" Green	4/24	7 AM	0.04	2	53	None	0**	—	184	10%	—	
5	1/2" Green	4/25	10 AM	3.57	36	54	Heavy	9540	Heavy	212	11%	5/8	5/10
6	Tight Cluster	4/27	11 PM	0.55	10	49	None	1740	Light	266	21%	—	
7	Open Cluster	4/30	9 AM	1.33	20	55	Moderate	320	Light	327	27%	5/14	5/15
8	Bloom	5/9	3 AM	0.35	8	53	None	26655	Heavy	431	45%		
9	Bloom	5/13	10 PM	0.7	7	63	None	2025	Light	609	85%	? 5/25	
10	Petal Fall	5/15	10 PM	0.04	9	54	None	0**	—	658	91%	? 5/26	
11	Petal Fall	5/24	4 AM	0.01	4	59	None	165	Light	897	97%		
12	8 mm	5/26	9 PM	1	16	64	Moderate	6450	Moderate	955	99%	6/7	6/8
13	10 mm	5/28	2 AM	0.02	20	51	Moderate	0**	—	1012	100%	6/9	6/8
14	12 mm	5/30	1 PM	0.01	2	63	None	0**	—	1062		—	
15	12 mm	6/1	5 AM	0.08	4	57	None	0**	—	1081		—	
16	24 mm	6/6	9 PM	0.03	3	56	None	4	Light	1235		—	
17	24 mm	6/8	5 AM	0.71	13	57	Light	596	Light	1297		6/18	6/22
18	30 mm	6/11	2 PM	0.02	15	57	Moderate	95	Light	1381		6/21	6/22
19	32 mm	6/13	5 AM	0.04	6	58	None	0**	—	1444		—	
20	35 mm	6/17	2 AM	1.49	26	61	Heavy	27	Light	1574		6/25	6/30
21	40 mm	6/19	2 AM	1.16	23	67	Heavy	3	Light	1649		6/26	6/30
22	1.5"	6/27	11 PM	0.33	4	70	None	0	EOP	1994		—	

Total Spores.... 54237

Total Rainfall during primary scab 12.61

*Spore numbers are from the Sparta area.

2009 Primary Apple Scab Infections

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Best Strategies for Scab Control and Resistance Management, 2010

- Inoculum reduction – **UREA to leaves, mowing**
- Start control early
- Protectant strategy -- **KILL FUNGUS**
- Keep spray intervals tight
- Spray all middles
- Ensure full coverage of trees
- Spray in the rain (light rain) if necessary during long wetting periods
 - **Captan, Mancozeb, Polyram, Sulfur OK in rain**

Be in a Protectant Mode



- Spray ahead of infections – start early in 2010.
- Spray coverage is key.
- Be aware of fast tissue growth.
- Cover the most susceptible varieties first.
- A “wasted” fungicide application is never useless.