Table 2.4 – Relationship of Temperature and Leaf Wetness to Apple Scab Infection

Apple scab infections occur during wetting periods when leaf wetness stimulates the spores to germinate and penetrate plant tissue. The scab prediction table given here can be used to determine whether conditions have been sufficient for infection so that appropriate spray decisions can be made. Length of leaf wetness period is from the beginning of the wetting event until canopy is no longer wet, or relative humidity drops below 90%.

Average Temperature (°C)[1]	Minimum Number of Hours of Leaf Wetness Required - Primary (Ascospore) Infection[2]			Minimum Number of Hours of Leaf Wetness Required - Secondary (Conidia) Infection[2]	Lesion appearance (days)[3]
	Light	Moderate	Heavy		
1	40	69	93	37	—
2	34	69	93	33	—
3	30	52	65	30	—
4	27	42	57	26	—
5	21	34	50	23	—
6	18	27	44	20	17
7	15	23	37	17	17
8	13	21	34	15	17
9	12	17	27	13	17
10	11	16	26	10	16
11	9	14	22	9.5	15
12–13	8	12	20	9	14
14–15	7	11	19	9	12–13
15.5	6.5	10	17	9	10–11
16–24	6	9	16	7.0–9.0	9–10
24–25	6.5	9	16	9–11	—
25	8	11	18	11	—
25.5	10	14	23	13	—

[1] Add lowest and highest temperatures during wet period and divide sum by 2 to get average temperature.
[2] Calculate hours of wetting by either (1) beginning the count at the time leaves first become wet and ending the count when the relative humidity drops below 90%, or (2) adding consecutive wet periods (hours) if the leaves are again wetted within 8 hours from the time relative humidity dropped below 90%.
[3] Number of days required for lesions to appear after infection has been initiated.
Adapted from Stensvand, A., Gadoury, D. M., Amundsen, T., Semb, L., and Seem, R. C. 1997. Ascospore release and infection of apple leaves by conidia and ascospores of *Venturia inaequalis* at low temperatures. Phytopathology 87:1046-1053 and Carisse, O. 2006. Apple Scab: Improving Understanding for Better Management. Agriculture & Agri-Food Canada, Publication 10203E.