***Table 1: Conditions for model development based on Temperature & leaf wetness (LW)***

|  |  |  |  |
| --- | --- | --- | --- |
| **Sl.**  **No** | **Avg. Daily Temp (℃)** | **LW >1%**  **(Daily Total Hours)** | **Risk** |
| 1 | < 5 | Any | Low |
| 2 | >=5 - <18 | < 14 | Low |
| >=5 - <18 | >= 14 | Medium |
| 3 | >=18 - <25 | < 6 | Low |
| >=18 - <25 | >=6 - <12 | Medium |
| >=18 - <25 | >= 12 | High |
| 4 | >=25 - <30 | < 10 | Low |
| >=25 - <30 | >= 10 | Medium |
| 5 | >=30 | Any | Low |

**Table 2: Rain effect on model:**

|  |  |  |
| --- | --- | --- |
| **Rain intensity** | **Interval** | **Risk** |
| >=0.28 to < 3 or >=25 | Avg of 10 days | Low |
| >=3 to <7 | Avg of 10 days | Medium |
| >=7 to <25 | Avg of 10 days | High |

To develop the model “temperature (T) + leaf wetness (LW) table” and “rainfall table” must be utilized separately to calculate the risk.

**Rules for tracking**

**Step 1:** Track the condition for 24 hours with respect to T+LW (Table 1). At the end of the day, we will get risks from this table.

**Step 2:** On the 10th day, along with T+LW risk calculation, calculate the average rainfall intensity for the last 10 days and assign the risk for rainfall intensity as mentioned in Table 2.

**Step 3**: So, we will get 2 risks on the 10th day i.e., one from T+LW (Table 1), one from rainfall (Table 2). Then account only the highest risk for that day (High > Medium > Low).

**Step 4**: Decide the spray interval based on risk accumulated till 10 days and send an advisory for farmers to go for spraying on the 11th day.

Note - If any condition is true for its specified duration, then that becomes the risk for the day. If there are more than 1 risk calculated in a day then the order of priority will be High > Medium > Low

**Spray Conditions:**

To calculate spray conditions, you will have to take the cumulative of risks in last 10 days.

H (High risk)

M (Medium risk)

L (Low risk)

**Rule 1: 10 days interval**

When there is very high risk, then the spray interval will repeat in every 10th day

Required condition:   > 4H (If there have been 4 or more High risk conditions in last 10 days)

Possible combination for 4H

3H+2M, 2H+4M, 1H+6M

8M

(Here we have considered two medium risks as one high risk, H = 2M, hence, 3H+2M also is 4H)

The system will count the above number on the 10th day and will decide whether to go for 10th-day spray or not.

If the condition of the 10th day happens, then the cycle completes and repeats again once taking the information of the spray date.

E.g., if on 10th day you have 2 High risk conditions and 6 Medium risk condition, then you will send a spray recommendation since 2H + 6M = 5H which is >4H. If however, the risk conditions are less than or equal to 4H then follow the next rule which is to spray on 15 days.

**Rule 2: 15 days interval**

If the above condition isn’t true then spray after 15 days.