2019 Pesticide Safety - KQF and Frost Update

Peter Jeranyama
PRELIMINARY KEEPING QUALITY FORECAST & FROST IN CRANBERRY

Peter Jeranyama
Keeping Quality Forecast

- Issued since 1949
- Preliminary KQF – early April; timed for the decision of whether to hold late water
- Final KQF – early June; timed for the determination of fungicide applications and rates
Preliminary Keeping Quality Forecast (out of 10)

- Sunshine hours from the previous growing season < 2274 hr. = 4 points
- Sunshine in February < 143 hr. = 1 point
- Sunshine in March > 179 hr. = 2 points
- Precipitation in March (EW & M’bоро) < 4.39 inches = 1 point
- Temperature in March < 34F = 2 points
The preliminary forecast for 2019 is for VERY GOOD keeping quality

1st time for 6/10 in 20 yrs; 3 times in 20 yrs = 5/10 [1/5 = Good]
Preliminary Keeping Quality for 2019

• Sunshine hours from the previous growing season = 2154 which is < 2274 = 4 points
• Sunshine in February < 143 hr. = 0 point
• Sunshine in March were 217 hr. which is > 179 hr. = 2 points
• Precipitation in March (EW & M’boro) < 4.39 in = 0 point
• Temperature in March < 34F = 0 point
• Total Points = 6 out of 10
Final Keeping Quality (out of 16)

• 0 – 2 points = Very poor
• 3 – 4 points = Poor
• 5 – 6 points = Fair
• 7 – 8 points = Good
• 9 – 10 points = Very good
• 11 + points = Excellent
Growing Degree Day Model

• Temperature is the most powerful environmental factor influencing plant growth rate

• Base temperature is when plants start to grow (for cranberry = 41°F).

• Cranberry may require a daylength of 13hr to resume spring growth.

• GDD = [(T_{\text{min}} + T_{\text{max}})/2] – 41 (100 GDD on 4/10/18; 4/20/19)
State Bog Bud Pictures, April 23, 2019

Early Black 20° F

Howes 20° F

Stevens 22° F
State Bog Bud Pictures – White Bud Stage April 23, 2019

Ben Lear  22° F

Demoranville  22° F

Crimson Queen  22° F

Mullica Queen  22° F
Proportion of Bud damage pre-frost season at State Bog, 2019

![Bar chart showing bud damage percentage for different varieties.]

- Early Black: 5%
- Howes: 15%
- Crimson Queen: 30%
- DeMoranville: 30%
- Stevens: 25%
- Mullica Queen: 30%
- Ben Lear: 20%