BC CRANBERRY RESEARCH FARM – 2018 PROGRESS REPORT

NOVEMBER 25, 2018

PREPARED FOR – BC CRANBERRY COMMISSION – RESEARCH MEETING DEC 6, 2018

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KEY FINDINGS TO DATE:

- Yields for almost all varieties were higher in 2018 compared to 2017 (e.g. Stevens (Bog 2) estimated yields increased from 127 barrels/acre to 167.33 barrels/acre)
- The top three highest yielding varieties in Bog 1 were: RS-25 (average of 575.40 barrels/acre), Crimson Queen (average of 559.23 barrels/acre) and Mullica Queen (average of 589.18 barrels/acre)
- The top yielding unreleased varieties from the Rutgers selections in Bog 2 were RS-25 (average of 410.46 barrels/acre), RS-155 (average of 448.69 barrels/acre) and RS-4 (average of 416.91 barrels/acre). Of these RS-25 and RS-155 have had consistently high yields in previous years.
- A predator survey conducted in Bog 4 and in four other cranberry fields in Delta and Richmond demonstrated that insect and spider predator numbers were highest in either the oldest fields or in fields with trees against the cranberry field. Bog 4, had relatively low levels of predator activity (see accompanying PDF file)

TO BE COMPLETED FOR FINAL REPORT – JANUARY 15, 2019

- Completion of yield analysis for Bogs 1 and 2 (% ROT, % SDC, BRIX, TACY, FIRMNESS)
- Completion of Fungicide (BOG 1) and Gibberellic acid (BOG 3) analysis
- Completion of girdler trial analysis (BOG 4)

ACTIVITIES FOR 2018 FIELD SEASON AT BCCRF

BOG	ACTIVITIES	TIMELINE
1	FUNGICIDE TRIAL	APPLICATIONS IN JUNE HARVEST AT BEGINNING OF SEPTEMBER
1	YIELD ASSESSMENT	HARVEST SEPTEMBER 25 HARVEST OCTOBER 3
2	YIELD ASSESSEMENT- 2013 PLANTING	HARVEST SEPTEMBER 25

	RUTGERS/VALLEY CORP. YIELD ASSESSMENT 2015 PLANTING RUTGERS/VALLEY CORP.	
3	GIBBERELLIC ACID TRIAL	APPLICATIONS IN JUNE HARVEST SEPTEMBER 25
4	NEMATODES FOR GIRDLER CONTROL MOSS CONTROL TRIAL PREDATOR SURVEY	APPLICATIONS IN AUGUST; ASSESSMENTS IN JULY (ADULTS) AND SEPTEMBER (FEEDING DAMAGE) JANUARY/FEBRUARY 2019 JULY TO SEPTEMBER 2019

RESULTS –YIELD ONLY

The yield data summarized below are for marketable yield (i.e. berry size is >9/32" and there are no defects (rot or mechanical damage)). All data are presented as the estimated average barrels/acre. These values are calculated based on converting the harvested weight of marketable berries from each 1-square foot sample from grams/ft2 to grams/acre (multiplying by 43560) and then converting from grams/acre to pounds (lbs)/acre (multiplying by 0.00220462). Finally, yield in lbs/acre is converted to barrels/acre (1 barrel = 100 lbs). In Bog 1, three square foot samples were taken for each variety and Bog 2, four samples were taken (2/plot with 2 plots/variety). These methods are consistent with previous years of data collection (since 2015).

BOG 1 -

Eight of the nine varieties harvested in 2018, had higher yields in than in the previous year (Fig. 1). The three highest yielding varieties were RS-25 (average of 575.40 barrels/acre), Crimson Queen (average of 559.23 barrels/acre) and Mullica Queen (average of 589.18 barrels/acre). Queen and RS-25 have consistently been in the top four highest yielding varieties during all four years of evaluation (Fig. 1). All varieties, except Willipa Red, had average yields over 300 barrels/acre in 2018.

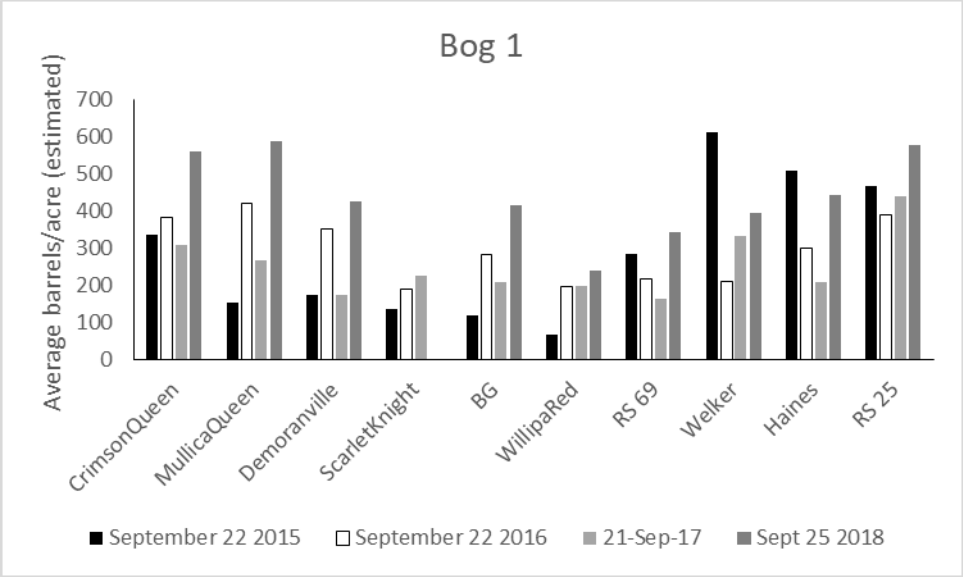


Figure 1. Four year comparison of estimated yields for cranberry varieties grown at the BC Cranberry Research Farm, Bog 1. Each bar is an average, based on yield from three square-foot plots hand harvested from each variety in late September of each year.

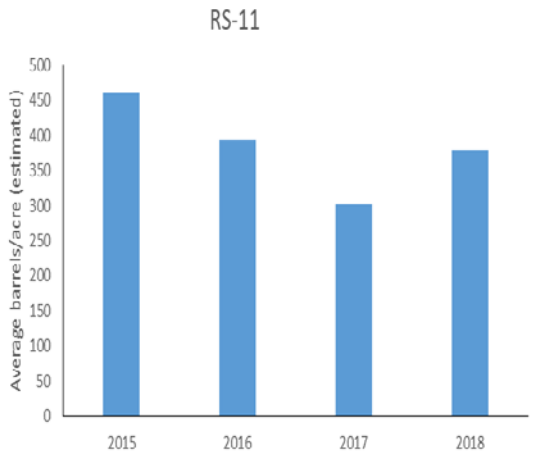
BOG 2 – RUTGERS 2013 PLANTINGS

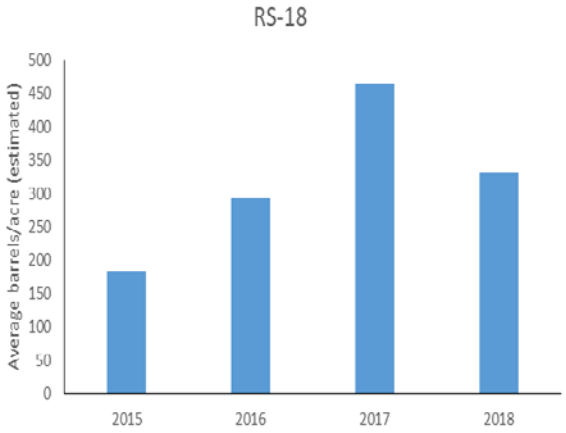
Four unreleased varieties– RS-11, 18, 71, 155, and 25 – were identified as candidates for further development based on yield data in the previous three years (2015 to 2017). In 2018, these four varieties continued to have high levels of production (Table 2 and Fig. 2) with RS 155 having the highest yield of all the varieties, including released varieties.

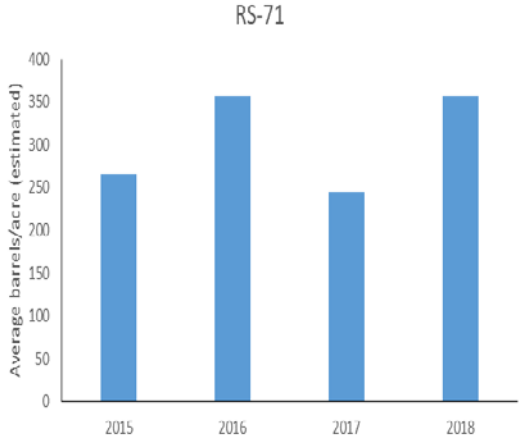
Table 2. Summary of estimated barrels/acre from Rutgers 2013 planting of 20 different varieties (with 2 replicates/variety). Values are the means of 4 square-foot samples (2/plot) for each variety.

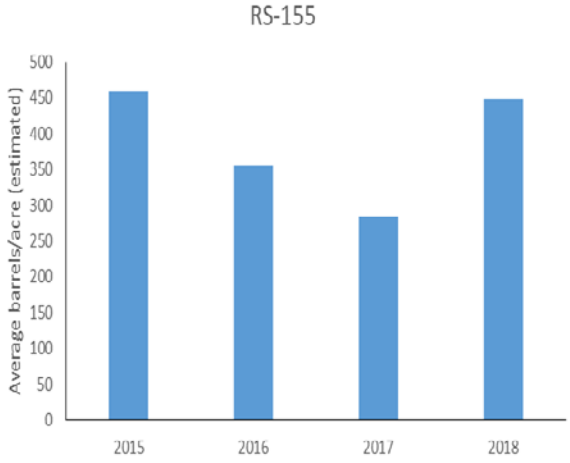
VARIETY NAME	AVERAGE BARRELS/ACRE	VARIETY NAME	AVERAGE BARRELS/ACRE
RS-83	233.12	**RS-18**	**330.58**
RS-4	416.91	**RS-99-25**	**410.46**
RS-14	298.66	RS-99-69	416.26
RS-309	318.83	RS-99-96	320.54
RS-37	364.64	RS-99-15	351.98
RS-170	319.79	Demoranville	376.73
RS-21	385.66	Stevens	167.33

RS-11	**378.70**	Scarlet Knight	207.98
RS-155	**448.69**	Crimson Queen	415.65
RS-71	**357.12**	Mullica Queen	412.66









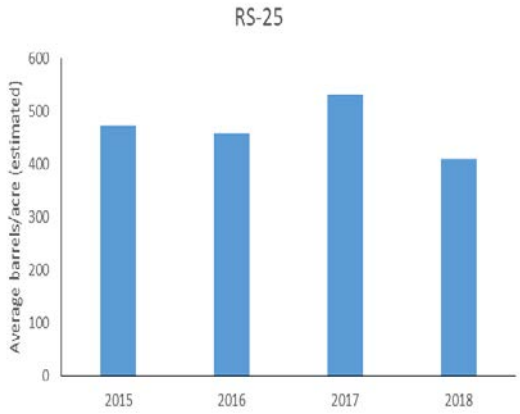


Figure 2. Four year comparison of estimated yields for five unreleased Rutgers selections grown at the BC Cranberry Research Farm, Bog 2. Each bar is an average, based on yield from four square-foot plots hand harvested from each variety in late September of each year.