

Raspberry Demonstration and Distillation at the Missouri State University Fruit Experiment Station

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Introduction. Field trials of primocane bearing raspberries at Mountain Grove proved this crop to be difficult to grow for profit due to summer heat during harvest and its effects on the fruit. The goal of this demonstration project was to see how primocane bearing raspberries



performed in a high tunnel (HT) compared to the field (F). A second goal was to develop a distilled fruit product using raspberries. This trial was a pilot study to determine if future research in HT raspberry production in this region is warranted.

Materials and Methods. Three primocane bearing raspberry cultivars – Caroline, Heritage and Josephine – were obtained as bare root plants, planted in containers in spring of 2010 and later planted in fall both in the high tunnel and in the field. Nutrients were added pre-plant according to soil test report recommendations. Plants were planted and maintained according to current best practices. Data recorded included weights of marketable yield, 25 berries, and dormant cane prunings (Table 1). The primocane crop was harvested and then canes were cut back close to the ground in the dormant season. After each harvest, berries were put into gallon Ziploc bags and frozen for use in the Missouri State University Distillation Program.

Frozen berries were put into stainless steel milk cans and infused with neutral grape spirits in two batches; one for 2 and the other for 4 days. The infused distillate was then poured into a bladder press and pressed out. Both batches in the first trial resulted in a red colored liqueur with pleasant raspberry aroma and sweetness derived from the fruit. However, the acid was too high to correctly balance the sweetness.



Table 1. Three year annual average (2011 – 2013) weights of marketable yield, 25 berries and dormant cane prunings for three primocane bearing raspberry cultivars grown in a high tunnel (HT) and in the field (F) at Mountain Grove, MO.

Cultivar Location	Market Yield pounds/30 feet	25 Berry Weight ounces	Dormant Canes pounds/30 feet
Caroline HT	30.9	2.5	22.5
Heritage HT	36.5	1.9	24.2
Josephine HT	32.5	3.4	24.3
Caroline F	13.9	2.0	12.8
Heritage F	9.7	1.4	9.1
Josephine F	5.8	2.5	6.9

The second trial took the red colored raspberry infused liqueur and distilled it again. This produced a clear “eau de vie” style product with pleasant raspberry notes.

Results and Discussion. Results indicate that primocane bearing raspberries have potential to be a viable commercial crop in high tunnel production in southern Missouri. Josephine, with acceptable yield and relatively large berries, was identified to be the base line cultivar to which other cultivars will be compared to in future research.



The procedure to produce a distilled product using raspberry fruit was worked out and will be used in recommendations to craft distillers. The first procedure yielded a red raspberry liqueur with pleasant raspberry character but high acid. The second procedure yielded a clear “eau de vie” style product with a pleasant raspberry aroma and good consumer acceptance.

New Research and Challenges. A new research project entitled “High Tunnel Production Rotation of Primocane Raspberries in Grow Bags” was funded by the Missouri Department of Agriculture Specialty Crop Block Grant Program and the first year of the trial was completed in 2014. Spotted wing drosophila was identified at



the State Fruit Experiment Station in June of 2013. This is a new and damaging pest that must now be dealt with in high tunnel raspberry production.

Acknowledgments. The authors wish to thank Dr. Anson Elliott, Director - Darr School of Agriculture, for his support of the high tunnel projects and to the Missouri State Fruit Experiment Station Field and Maintenance Supervisors and Staff and the MSU Winery and Distillery Staff for their invaluable assistance on these projects.

