

## LICENSING CONTACT

Technology  
Commercialization  
Office  
2549 N. Hatch Ave.  
Fayetteville, AR 72701  
Phone: 479-575-3953  
agritco@uada.edu

## TECHNICAL CONTACT/ PLANT BREEDER

Dr. Margaret  
Worthington  
Horticulture Department  
PTSC 316  
Fayetteville, AR 72701  
mlworthi@uark.edu

## LICENSE AVAILABILITY

Non-exclusive licenses  
available in the United  
States

## INTELLECTUAL PROPERTY STATUS

United States Plant  
Patent will be filed in  
2024

### 'Sweet-Ark® Immaculate'

Sweet-Ark® Immaculate is a new, late-season, floricanes-fruiting, thornless blackberry variety. This new variety has good yield potential comparable to Osage and Sweet-Ark® Caddo. Berries are medium-large and very firm, with postharvest potential similar to Ouachita and Sweet-Ark® Caddo and slightly superior to Osage and Sweet-Ark® Ponca. Fruit of Sweet-Ark® Immaculate is expected to perform comparably to other Arkansas blackberry cultivars for storage and shipping. In Arkansas, the first harvest date is June 26, 11-12 days after Osage and Sweet-Ark® Caddo. Sweet-Ark® Immaculate is intended to be a complement to Navaho and Von in late-season fresh market blackberry production.

- General:** Floricanes-fruiting, thornless, erect canes with shortened internodes and delayed elongation of primocanes (tip after harvest). Sweet-Ark® Immaculate also has notably extended inflorescences which present most fruit outside of the canopy. Trellis-fill has been noted to be thin due to the stature of the plant, so higher planting density may be necessary to achieve optimal trellis-fill.
- Ripening:** Later than Osage and Sweet-Ark® Caddo and similar to Von and Navaho. The harvest period averages ~40 days.
- Berry:** 7.4 g overall average fruit size with a range of 7.1 - 7.7 g in Arkansas. Fruit is larger than Osage, Sweet-Ark® Ponca, and Von, and similar in size to Sweet-Ark® Caddo.
- Yield:** Good yield potential on floricanes, and crop control with pruning is advised to balance crop. Floricanes yields have averaged 19,405 lbs/ac across three years of evaluations. Yield ranged from 15,000 - 27,000 lbs/ac and was likely variable due to environmental factors. Both years where yield was closer to 15,000 lbs/ac, the crop was likely lighter due to extreme winter events, ultimately damaging buds and canes of most Arkansas material.
- Flavor:** Flavor has been rated good with light aromatics. Flavor consistency can be variable and fruit has been noted to be tart at times. The overall average for soluble solids is 10.1%, with titratable acidity of 0.99% and pH averaging 3.3.
- Postharvest:** Storage for 7 days has been comparable to Ouachita and Sweet-Ark® Caddo in overall marketability. Sweet-Ark® Immaculate berries retain exceptional firmness in storage up to 14 days, but moderate leak and red-drupelet reversion have been noted past 7 days in storage.
- Plants:** Sweet-Ark® Immaculate plants have shown good health and moderate vigor. No orange rust nor anthracnose was observed on Sweet-Ark® Immaculate. Winter hardiness has been comparable to Sweet-Ark® Caddo and has shown mild winter injury to a low of -15 °F. Chilling requirement is unknown, but is anticipated to be approximately 400 - 600 hours.



DIVISION OF AGRICULTURE  
RESEARCH & EXTENSION  
University of Arkansas System

Arkansas  
Fruit  
Breeding



Fig. 1. Ripe fruit of Sweet-Ark® Immaculate



Fig. 2. Sweet-Ark® Immaculate displaying fruit on extended inflorescences. Primocanes are emerging from below the canopy without interfering with fruiting or to the height required for tipping.