

## **Progress Report**

### Weed Control Strategies in Blackberry Production

Ron Strahan—(PI) LSU AgCenter. 104 Sturgis Hall, Baton Rouge, LA 70803

[rstrahan@agcenter.lsu.edu](mailto:rstrahan@agcenter.lsu.edu)

Stuart Gauthier—(PI) LSU AgCenter. St. Martin Parish Extension, 114 Courthouse Street  
Breaux Bridge, LA 70517

[Sgauthier@agcenter.lsu.edu](mailto:Sgauthier@agcenter.lsu.edu)

### **Public Abstract:**

Blackberry production currently accounts for over \$2.3 million dollars in gross farm value in Louisiana. Blackberries rank 4<sup>th</sup> in gross farm value behind only strawberries, citrus and blueberries in Louisiana. According to 2018 LSU AgCenter statistics, 112 commercial growers are harvesting over 107 acres of blackberries across the state.

Blackberry acreage, prices and production are on the rise in Louisiana. In the last ten years, blackberry acreage has nearly doubled. In 2008 blackberries were grown on 65 acres and accounted for only \$274,418 in gross farm value. This ten-fold increase in value has been fueled by a price per pint that has soared from \$1.75 in 2008 to an average per pint price of \$4.53 in 2018. The development of new and more productive cultivars has also allowed production yields per acre to double from 2,419 pints per acre in 2008 to over 4,884 pints per acre in 2018.

Unlike most other fruit crops grown in Louisiana, blackberries are not geographically restricted and therefore, can be grown across most soil types and latitudes around the state. Compared to citrus that is grown only in the south or blueberries and strawberries that thrive in sandy well drained piney woods soils, blackberries can be grown in all of Louisiana's 64 parishes, from the coastal prairie of South Louisiana to the alluvial soils along the Mississippi river with similar degrees of success. Because of the widespread adaptation of blackberries, it is important for extension agents to be knowledgeable about this fruit crop that is grown in most parishes across the state.

### **Introduction**

While blackberry gross farm value has soared over the last 10 years, in-state research and demonstration plot work for blackberry production in Louisiana has been minimal. Despite weed control being one of the major issues facing blackberry growers, little to no official research on weed control in commercial blackberries has been conducted in Louisiana in the last ten years. Correspondingly the LSU AgCenter website, weed control guides and fact sheets on blackberry weed control are not current.

As a training site for county agents and blackberry producers, on-farm weed control plots were established in March, 2020 in St. Martin Parish, near Breaux Bridge, LA . The efficacy of synthetic and organic herbicides as well as organic mulches, inorganic plastic mulch and landscape fabric were evaluated at this location. A comparison weed control products including cost per acre will be provided to give growers a more current estimate of overall weed control costs. Currently, no budget information on blackberry weed control costs exist in Louisiana.

**Methods:** An on-farm weed control demonstration was established at the D&D Blackberry Farm in Breaux Bridge, LA in late winter 2020. Herbicides and mulches were fully installed by March 3<sup>rd</sup>. A non-selective herbicide was used to destroy existing weed populations prior to mulch installation and herbicide applications.

The herbicides evaluated in the weed control demonstration included synthetic preemergence herbicides Princep (simazine), Surflan (oryzalin), Devrinol (napropamide), and Sinbar (turbacil). Organic herbicides evaluated included Preen Garden (corn gluten), a preemergence herbicide and Scythe (pelargonic acid), a postemergence herbicide. The organic herbicides were applied monthly for the duration of the study. Organic mulches evaluated at this location included pine bark, pine straw and sugarcane bagasse. Two Inorganic row coverings, GCI 500 Series Landscape Fabric and 1.25 mil black non-degradable plastic mulch were included in the weed control demonstration as well. Weed control plots were evaluated monthly.

This project was initiated to provide a training for county agents and increase the knowledge of Louisiana blackberry producers. In order to extend the results of the demonstration plots to the clientele, an intensive agent training / producer field day was scheduled for the peak production period of the growing season.

## Results

All mulches tested were equally effective in managing annual weed populations. Combinations of mulches + preemergence herbicides were highly effective as well. However, perennial weeds such as bahiagrass, bermudagrass, blue vervain, Virginia buttonweed, and yellow and purple nutsedge were the most common weeds infesting test plots regardless of weed control method used.

Mulch	Cost/Acre	Comments
Pine bark	\$13,068	Labor intensive and expensive; heavy
Pine straw	\$6185	Light material; may get dispersed by wind
Sugarcane bagasse	free	Free by-product of sugarcane production; labor intensive; attracts fire ants
GCI 500 series fabric	\$7200	Most effective weed control evaluated
1.25 mil non-degradable plastic mulch	\$580	Effective at suppressing most broadleaf and grassy weeds. Easily penetrated by nutsedge.



Bagasse is a free mulch option in sugarcane production areas of Louisiana



The combination of pine straw mulch and heavy crop canopy suppressed weeds

Summary of herbicide performance (0= no control 10 = complete control)					
Herbicide	Rate/Acre	Cost/Acre	Broadleaf Control Rating	Annual Grass Control Rating	Sedge Control Rating
Simazine 4 L	2 qt	\$15	8	5	0
Oryzalin 4 EC	6 qt	\$127	6	8	0
Napropamide 50 DF	8 lbs	\$124	8	8	0
Turbacil 80 WDG	1 lbs	\$58	9	7	0
Corn gluten	870 lbs	\$2,540	5	5	0
Pelargonic acid	8% solution v/v	\$243	6	6	3



Devrinol @ 80 days after treatment

Simazine @ 80 days after treatment

### **Blackberry Agent Training and Field Day**

Although severe travel and meeting restrictions were placed on AgCenter personnel due to the coronavirus, a successful field day/agent training was conducted on May 22, 2020, 80 days after the demonstration plots were initiated. The goals of the training were to show the effectiveness of the different weed control strategies and to provide comprehensive production information for extension agents and current and perspective blackberry producers.

### **Speakers and Topics at the Field Day**

Dr. Stuart Gauthier – Demonstration Farm Information and Cultural Practices

Dr. Raj Singh—Blackberry Insects and Diseases

Dr. Kurt Guidry—Economic Factors to Consider for Blackberry Production

Dr. David Picha—Post Harvest Handling

Dr. Katherine Fontenot—Varieties and Cultural Practices

Dr. Ron Strahan—Weed Control in Blackberries and a tour of the demonstration plots



Extension agents and horticulture students evaluate herbicide demonstration plots

High quality blackberry production videos were produced and edited by the LSU AgCenter Communications Department. These videos have been well received by our clientele as they provide useful technical information for commercial/consumer blackberry growers and extension agents.

Stuart Gauthier <https://www.youtube.com/watch?v=0xeTybmc64>

Katherine Fontenot <https://www.youtube.com/watch?v=KKO3JT2vrTc>

Ron Strahan <https://www.youtube.com/watch?v=giB3RLY9LLI>

Raj Singh [https://www.youtube.com/watch?v=Qo53Rv\\_EYKM](https://www.youtube.com/watch?v=Qo53Rv_EYKM)

David Picha <https://www.youtube.com/watch?v=K3wOkeLIJFY>

Craig Gautreaux <https://www.lsuagcenter.com/articles/page1590602938333>



Dr. Katherine Fontenot discusses blackberry cultural practices