



Evaluation of Crape Myrtles for Insect Resistance

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Nature of Work:

Crape myrtles have few serious insect pests. The most problematic include the Japanese beetle, *Popillia japonica* and the flea beetle, *Altica* sp. Crape myrtles may also be infested by the crape myrtle aphid and periodically by the Asian ambrosia beetle. Potential resistance to Japanese beetle was evaluated among 17 crape myrtle cultivars and to flea beetles among 23 cultivars.

Japanese beetle evaluations- Crape myrtles in 3-gallon pots were arranged in a randomized complete block design with 6 replications on weed barrier and supplied with drip irrigation in an area of Spalding Co. known for consistently heavy Japanese beetle infestation. Criteria for evaluation included number of beetles per plant and season-long defoliation by the beetles.

Flea beetle evaluations- Crape myrtles were planted in the Research and Education Garden at the Griffin Campus of the University of Georgia in a randomized complete block design. A similar design using potted plants was established at the Center. Flea beetles were confined to cages containing cuttings from each of 23 cultivars. Damage assessments were made by three observers where 0 represented no damage and 10 represented 100% defoliation.

Results and Discussion:

Japanese beetle evaluations- Crape myrtles were heavily infested with Japanese beetles from May -July. All cultivars evaluated became infested and sustained some damage. There was, however, a considerable range in degree of infestation and damage sustained. Among cultivars included in this study, 'Regal Red' was the first to be attacked, the most heavily infested and sustained the greatest damage. The least damage and/or fewest beetles were found on 'Cordon Blue', 'Lipan', 'New Orleans', and 'Acoma'.

Table 1. Evaluation of Crape Myrtles for Japanese Beetle Resistance

Cultivar	Mean % terminals damaged	Mean No. beetles per plant
Regal Red	100.0a	136.0a
Tuscarora	99.5ab	41.8bcd
Zuni	98.4ab	23.0bcde
Miami	95.1ab	51.5bc

Carolina Beauty	93.8ab	17.3cde
Sioux	93.1abc	37.2bcd
Muskogee source 1	89.2abc	52.7b
Yuma	88.6abc	23.2bcde
Worlds Fair	84.2abc	17.5cde
Hope	83.9abc	20.0bcde
Natchez	78.7bc	20.0bcde
Muskogee Source 2	72.1cd	37.5bcd
Cordon Blue	54.5de	1.8
Tonto	53.6de	44.2bcd
Lipan	37.5ef	20.5bcde
New Orleans	31.9f	0.5
Acoma	20.3f	10.2de

Flea beetle evaluations- Neither potted plants located at the center or field plants at the Griffin campus became infested with beetles during 2001. Among the cultivars tested in the laboratory during June, 8 selections were free of damage. ‘Byers Red’, ‘Choctaw’, and ‘Cedar Lane Red’ sustained the most feeding damage, demonstrating an average of 38-44% defoliation in these preliminary cage evaluations.

Table 2. Evaluation of Crape Myrtles for Flea Beetle Resistance

Cultivar	Damage Rating
Choctaw	4.4a
Byer’s Red	4.1a
Cedar Lane Red	3.8ab
Commanche	2.4abc
Byer’s White	2.2abcd
Carolina Beauty	1.7bcd
Miami	1.7bcd
Pink Velour	1.7bcd
Dynamite	1.2cd
Sioux	1.0cd
Seminole	0.9cd

Powhatan	0.8cd
Catawba	0.7cd
Muskogee	0.2cd
Sarah's Favorite	0.1d
Osage	0d
Natchez	0d
Lipan	0d
Fantasy	0d
Tonto	0d
Tuscarora	0d
Wichitaw	0d
Zuni	0d

Summary:

A range in damage by leaf feeding beetles was demonstrated by crape myrtles that were either naturally infested in field plots or evaluated in laboratory cage studies. An understanding of which cultivars are least pest prone can suggest those that will require fewer inputs during production and in the landscape.