

Lettuce Cultivars for Open-Field Conventional Systems

► In an ongoing effort to provide science-based answers to production-related issues, cultivar variety trials were conducted to support the vegetable industry in Alabama. Recent evaluations resulted in guidelines for lettuce cultivar selection in conventional production systems.

The lettuce cultivar trial was conducted during spring 2022 and evaluated 16 lettuce cultivars (table 1) grown under an open-field system using conventional management practices (figure 1). The field is located at Auburn University's E. V. Smith Research and Extension Center in Shorter, Alabama.

Crop Management Practices

- **Planting date:** Seeds were planted into 200-cell trays filled with soilless media on April 4, 2022, and greenhouse grown until transplanting.
- **Transplanting date:** May 06, 2022
- **Bed-spacing:** 6 feet center to center
- **Row-spacing:** 16 inches within bed
- **In-row plant spacing:** 9 inches
- **Plant population:** 19,360 plants/acre
- **Harvest date:** June 7, 2022
- **Irrigation:** Irrigation water was applied using a drip system installed under white plastic mulching. Irrigation events supplied approximately 1 to 1.5 inches of water per week.
- **Fertilizer:** Approximately 500 pounds/acre of 10-10-10 fertilizer was applied preplant using a fertilizer spreader (50 pounds of nitrogen/acre) before laying plastic mulch. A week after transplanting, plants were fertilized once a week until harvest through drip irrigation with 15 pounds of nitrogen/week/acre using 20-20-20 (60 pounds of nitrogen/acre).
- **Pest management:** Crop management practices for disease, insect, and weed control followed recommendations of the Alabama Cooperative Extension System or the "Southeastern US Vegetable Crop Handbook."
- **Data collection:** At harvest, lettuce heads were cut at the base of the plant, and lettuce weight was recorded for calculation of total yield (pounds/acre). Lettuce head diameter (inches) and height (inches) were also recorded from five marketable heads. All data was used for statistical analysis and cultivar comparison within each system. Statistical analysis was performed using the RStudio software using the Fisher's Least Significant Difference Test with a p-value of 0.05.



Figure 1. Overview of lettuce grown in open field under conventional production practices during spring 2022.

Table 1. Lettuce Cultivars Evaluated During Spring 2022

Cultivar	Lettuce Type
Panisse	Oakleaf
Breen	Romaine
Coastal Star	Romaine
Salanova Green Butter	Salanova
Salanova Red Butter	Salanova
Rouxai	Oakleaf
Monte Carlo	Romaine
Rosaine	Bibb
Newham	Bibb
Truchas	Romaine
Dragoon	Romaine
Grazion	Oakleaf
Bauer	Oakleaf
Ezflor	One-Cut
Bluerock	Romaine
Milagro	Butterhead

Results

Lettuce head weight was the highest for cultivar Bluerock (0.74 pounds) and lowest for cultivar Salanova Red Butter (0.22 pounds). Head diameter was the largest for the cultivars Bluerock (12.0 inches) and Coastal Star (12.0 inches) and lowest for the cultivar Salanova Red Butter (5.0 inches). Head height was highest for the cultivar Bluerock (13.0 inches), and the lowest was Salanova Red Butter (7.6 inches). Overall, lettuce cultivars performed well during the growing season. Particularly, cultivar Bluerock had the highest head weight, head diameter, and head height and can be an option for growers selling lettuce under contracts. Growers selling lettuce per unit (head based) should select cultivars according to customer demand.

Table 2. Lettuce Head Weight, Diameter, and Height According to Cultivar

Cultivar	Head Weight (pounds)		Head Diameter (inches)		Head Height (inches)	
Bluerock	0.74	a*	12.0	a	13.0	a
Grazion	0.65	ab	8.2	bc	11.5	abc
Dragoon	0.61	abc	7.1	cd	8.4	fg
Milagro	0.58	abc	7.1	cd	11.0	bcd
Coastal Star	0.53	bcd	12.0	a	12.1	ab
Monte Carlo	0.51	bcde	8.0	bcd	11.0	bcd
Bauer	0.50	bcde	5.2	f	9.1	efg
Newham	0.50	bcde	6.8	de	8.3	fg
Panisse	0.47	cdef	6.9	de	10.7	bcde
Breen	0.39	def	8.0	bcd	9.5	def
Rouxai	0.38	defg	6.8	de	9.6	def
Rosaine	0.38	defg	7.1	cd	9.3	defg
Salanova Green Butter	0.34	efg	5.7	ef	8.6	fg
Truchas	0.32	fg	8.5	b	9.9	cdef
Ezflor	0.32	fg	7.2	bcd	9.8	def
Salanova Red Butter	0.22	g	5.0	f	7.6	g

* Values followed by similar letters within a column indicate no significant difference among varieties according to Fisher's Least Significant Difference Test mean test.



Bauer



Bluerock



Breen



Coastal Star



Dagoon



Ezflor



Grazion



Milagro



Monte Carlo



Newham



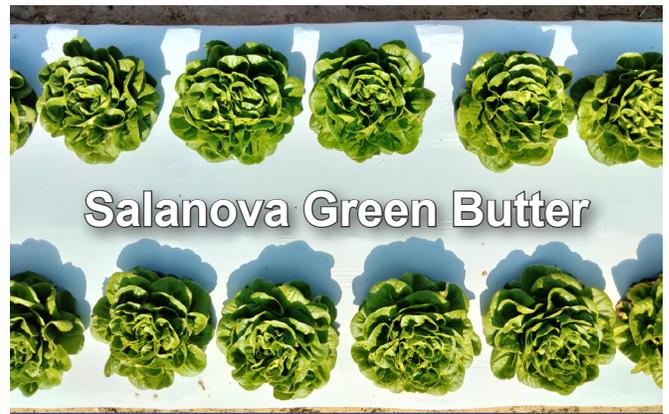
Pansse



Rosaine



Rouxai



Salanova Green Butter



Salanova Red Butter



Truchas



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