

2018 LSU AgCenter Early Spring Radish Variety Trial

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Introduction

Radish (*Raphanus raphanistrum* subsp. *Sativus*) are root crops related to other cool season crops in the Brassica family. Although not a popular or a heavily consumed crop, radishes in small portions can be found in salads and used as food decoration. Radish are also used in cocktails, relishes, and pasta, meat, yogurt and rice dishes. Radish are most often consumed raw but can be cooked. Radish are packed with nutrition, containing vitamins E, A, C, B6, and K. They also contain fiber, zinc, potassium, calcium and iron. Maybe we should start consuming them in larger quantities?

Because they are not a popular crop, variety trials are seldom conducted. However there are many choices of radish varieties available with interesting colors, shapes and sizes. A variety trial was conducted in both north Louisiana at the Northeast Research Station in Tensas Parish and south Louisiana at the LSU Botanical Gardens in East Baton Rouge Parish to determine which 16 varieties of radish perform best in the Louisiana climate and soils.

Materials and Methods

All radish seed were sown directly into the field. The soil at both locations was disked, tilled, hipped and shaped. Irrigation was not used as the entire trial would last no longer than 2 months. If rain did not occur, radishes were watered weekly so that 1 inch of water was applied. The weather was extremely rainy during this period. Treflan herbicide was applied as a pre-emergent herbicide. Fertilizer was applied at a rate of (50lbs of actual N and 100 actual lbs. of P and K) per acre preplant. Because this crop is so short lived, we side dressed once using Peter's 20-20-20 at a rate of 200ppm.

The south Louisiana trial site was planted on February 6, 2018 and harvested on March 20, 2018. The north Louisiana trial site was planted on March 6, 2018 and harvested on April 24, 2018. The later planting date for the northern site was to avoid cooler temperatures that may have decreased germination. Radish are a cool season crop but do not tolerate freezes well nor hot temperatures. Producers generally begin planting radish about 3 weeks prior to the last frost. The LSU AgCenter recommends planting radish from January 1st through the end of March. This is based on planting date recommendations from the Louisiana Vegetable Planting Guide.

Each radish variety was planted in a 5ft plot triple drilled. Drills were spaced 8 inches apart and 12 seed /ft. were planted. The middle 2 feet of each plot were harvested for data (all 3 drills were harvested). Data was collected on visual stand counts (% germination) and harvested roots (within the 2 ft. center of each plot) were graded using USDA standards. A USDA #1 radish must not be less than 5/8th inch in diameter, smaller radishes were culled. For more information about grading standards, see this link <https://www.ams.usda.gov/grades-standards/radish-grades-and-standards> . We used a Staedtler Mars 977 102 professional general purpose template and dropped individual radishes into the 5/8th inch

opening. Radishes that went through the opening were culled because the size was less than 5/8th inch diameter. Radishes that had growth cracks covering over 50% of the radish were also culled.

Results

Variety	Seed Company	Root Color	Avg % Germ	Avg. USDA #1 Roots Harvested	Avg. No. Cull Roots Harvested	Total USDA #1 Radish Root Weight (g)	Total Cull Radish Root Weight (g)
			North and South Louisiana Data Combined			North Louisiana Data Only	
Amethyst	Johnny's Select Seed	Deep purple exterior, white interior	92.5	14	34	353	1464
Bacchus	Johnny's Select Seed	Deep purple exterior, white interior	80	13	36	150	1149
Cherry Belle	Stokes Seed	Dark pink almost red interior, with white exterior	92.5	8	41	176	1203
Cooks Custom Blend	Burpee	Exterior color ranged from light pink, to white and dark pink (blend). Interior color was white	70	9	24	188	595
Easter Egg	Johnny's Select Seed	Exterior colors ranged from white, purple, red, dark and light pink. Interior color was white on all	85	13	18	209	482

Mardis Gras	Burpee	White or deep pink exterior color, white interior color	70	6	27	155	483
Nero	Johnny's Select Seed	Black exterior, white interior. Some browning in interior of a few roots	100	10	62	235	873
Ping Pong	Johnny's Select Seed	White interior and exterior color	45	15	12	549	214
Pink Beauty	Johnny's Select Seed	Dark pink exterior, white interior	99	15	67	188	1757
Red Head	Territorial Seed	Exterior red on top white on bottom, interior all white with cavities.	90	13	24	88	601
Runder Schwager	Territorial Seed	Black exterior, white interior	95	10	42	333	549
Sora	Johnny's Select Seed	Dark pink exterior, white interior. Some browning on interior roots	92.5	13	25	130	510
Sparkler	Stokes Seed	Dark pink exterior with a white tip. Interior was white. Some	97.5	16	48	77	839

		roots exhibited hollow roots					
Stargazer	Territorial Seed	Mixed white and dark pink exterior. Interior color had circles of dark pink and white	97.5	9	30	30	534
Valentine	Stokes Seed	Faded dark pink and white exterior. Interior was mostly dark pink with some white rings	92.5	9	31	136	577
Watermelon	Burpee	Light pink interior with light and dark pink interior color rings	22.5	1	12	0	158

Conclusions

Weight data was only collected at the north Louisiana location. The radishes did not perform as well as expected. USDA #1 size radishes were hard to achieve. We think this may be due to the excessive rainfall during the trial. Many of the radishes produced a good number of roots. However the root quality was limited. Roots in almost every variety were pithed or too small to be deemed a USDA #1 root. Based on this trial, we would not recommend 'Watermelon' radish to either commercial or hobby gardeners. 'Watermelon' is not recommended because of poor germination and lack of roots produced. 'Ping Pong' produced good quality roots. It had a creamy white interior and exterior and a nice round shape without pithing. This variety warrants future research. Germination of 'Ping Pong' seemed low, but probably because it did not produce as many tops as other varieties. 'Sparkler' and 'Pink Beauty' produced higher total number of roots as compared to the other varieties. With better timing on planting these may be good contenders for Louisiana. 'Amethyst' also warrants further research as they had higher number of total roots developed as well. 'Sparkler', 'Pink Beauty', and 'Amethyst' were of higher quality than the other tested varieties. 'Red Head' is not being recommended for Louisiana at this time because the interior portion of the root had cavities, which may be an indication that this variety needs more boron than other varieties.

Radish should be planted with irrigation, especially if a dry season is predicted. While we experienced growth cracks from excessive rains, lack of irrigation can also reduce root quality. Boron may also need to be applied on soils with low boron. Boron deficiencies in radish appear as hollow roots. 'Sparkler' and 'Red Head' may need extra boron applications.