

2019 PDREC Farm Research Results

1. Spring Beet Trials

Champion	Detroit Supreme
Red Beet	Ruby Queen
Red Ace	

The plant tops of all varieties were severely damaged by excessive heat making the plot not worth harvesting.

2. Goal Herbicide used as a post-emergent on collards.

Champion collards were planted by seed on February 25, 2019. Goal was applied post-emergent on 5-31-19. The collards had some chlorosis due to the herbicide but no other symptoms like reduced growth were observed.

3. Spring 2019 Vegetable Meeting and Plot Tour- PDREC

10:00 a.m. – 1:00 p.m. March 12, 2019 with 48 attendees

4. Temperature change has drastically limited Butterbean production in S.C. and since the year 2000 it has been limited to only spring and fall production with no summer production. However, in years like 2018 with hot springs and hurricanes in the fall butterbean production was almost non-existent in S.C. Also, 2019 spring yields were again devastated by the hot temperatures in May and June. The result is many growers are going out of business. Since 2016 Selections for heat tolerance have been made from the 15 predominant Butterbean Varieties used in the U.S. 81 Selections were planted in June 2018 at the PDREC. At the end of Summer 24 Selections were determined to possess the qualities needed for commercial production in S.C. 8 of these selections (with the most potential) 3 speckled and 5 green seeded selections went through seed increase in the field this summer. However, geese damaged the crop and reduced the possible seed increase and made hand harvest the only way to get a good seed increase. Even with this damage we have a good amount of seed for next year's increase.

5. Summer heat tolerance test of snap bean varieties – 1st planting 3 reps, 2nd planting 2 reps.

First planting, 41 varieties of snap beans from numerous seed companies were planted with 3 replications. However, the same day of planting a very heavy rain destroyed the planting. Second planting was made 3 days later with 40 varieties of snap beans with 2 replications because of the amount of seed remaining.

All varieties performed poorly in the heat. However, 4 varieties performed slightly better including Wyatt, Sybaris, Colter, and Caprice.

Alonso	Navajo	Platini	Silverado	Jaguar
PV 857	Wyatt	Velero	Cabot	Sahara
Caprice	Colter	Trial 01	HM 5101	Gulivio
Huntington	BB0587	Wav 74	Pls 2219	Pls 524
HM 5722	Usambra	Moncayo	Pismo	SB4773
SV 1286	Sybaris	Pls 7347	HM 5756	Bowie
Outlaw	806	HM 7711	SB 4707	SB 4748
SB 4738	DM 0465	DM 0455	Wav 19	Roma II
Forrester				

6. Summer heat tolerance test of spinach varieties – 2 reps at PDREC

10 varieties of spinach from numerous seed companies were planted with 3 replications. All varieties performed poorly in the heat. However, the variety “Balboon” performed better than the rest and exhibited the most heat tolerance.

DM 66-16	1470	Sienna	Vancouver	DM 66-15
DM 66-09	Lakeside	Balboon	Perius	Platypus

7. Spartan Herbicide as a pre-emergent on Seeded Collards.

Spartan Herbicide was applied immediately after planting Vates Collard seed and irrigated in. Crop germination and stand were not reduced by Spartan at either the 2 or 4 oz. per Acre rate. A small amount of chlorosis was noticed in the young collard plants where the 4 oz. rate of Spartan was applied. However, in the end growth was not reduced by either the 2 or the 4 oz. rate of Spartan. Weed control was very good in both the 2 and 4 oz plots, but slightly better with the 4 oz. rate. Another test will be done on the Haigler Farm in 2020 because the most important weed we need to control is swine cress which is not present at the PDREC vegetable plots.

First number is replicate within field – Last number is treatment of herbicide.

1 = check

2 = 4 oz/ A Spartan

3 = 2 oz./A Spartan

Average height of plants within row – 3 rows per plot 5 lines of collard seed planted per row.

101	102	103	201	203	202	302	301	302
16	14	16	15	15	15	16	14	16
16	16	15	15	16	15	16	14	16
18	18	16	16	16	15	16	15	14

8. Biological control of Insects with a Dog Fennel Extract on Collards.

A Dog Fennel Extract of 2 lb. dog fennel ground-up/ 18 gallons water per acre was applied to Vates Collards. Zero, one, two, and three applications were made at 2-week intervals after crop reached 8 inches tall and before insect damage was noticed.

As of now 11-19-19 there is not enough insects or insect damage to differentiate between treatments