



THE UNIVERSITY OF ARIZONA

Yuma Center of Excellence
for Desert Agriculture

YCEDA Fusarium wilt of lettuce trials

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Yuma Trials

| Year | Wet Date | Evaluation Date |
|------|-----------|-----------------|
| 2019 | 9/16/2019 | 11/18/2019 |
| 2020 | 9/24/2020 | 11/19/2020 |
| 2021 | 9/14/2021 | 11/29/2021 |
| 2022 | 9/12/2022 | 11/28/2022 |
| 2023 | 9/18/2023 | 11/27/2023 |

Analysis:

Analysis of variance (ANOVA) on disease severity and marketable head data was performed ($P \leq 0.05$) followed by post-hoc comparison of varieties using Tukey's honest significance difference (HSD) test.

In the graphs on the following pages, cultivars with the same letter are not significantly different.



Disease Severity Rating

0=No Disease

1=slight chlorosis on outer leaves, stunting



2=More extensive chlorosis and stunting, in-slot varieties have stunted heads



Marketable Heads

←
Approximate cut-off point

- Low DS with stunting
- High DS with good head formation

3=Chlorosis and stunting, severely stunted or no head



4= Remaining leaves are chlorotic and nearly dead or plant is entirely dead



Bottom line: Plants rated 0 are healthy and 4 are dead or nearly dead. Plants rated above a 2 will likely not produce a marketable head, even for processing.



2019 Field Trial Results-Iceberg

| Lettuce cultivar | Mean DS ² | | Lettuce cultivar | Mean DS | |
|------------------|----------------------|----|------------------|---------|----|
| 108 | 4.0 | A | Tamarack | 1.9 | D |
| Esky | 3.7 | AB | Dover | 1.4 | DE |
| Buckskin | 3.7 | AB | Desert Eagle | 1.2 | EF |
| Growler | 3.4 | BC | Meridian | 0.8 | FG |
| El Guapo | 3.3 | BC | Blas | 0.6 | G |
| Slotmachine | 2.9 | C | Midway | 0.4 | G |

² Disease Severity (DS) was recorded by evaluating on a 0-4 disease severity scale 0 = symptomless plants; 1=slight chlorosis on outer leaves, stunting; 2 = more extensive chlorosis and stunting, in-slot varieties have stunted head; 3 = severe stunting, chlorosis, and no head formation; and 4 = remaining leaves are chlorotic and nearly dead, or plant is entirely dead. Mean DS was calculated by averaging 50 plants from each of the four replicates.



2020 Field Trial Results-Iceberg

| Lettuce cultivar | Mean DS ^z | | Lettuce cultivar | Mean DS | |
|------------------|----------------------|------|------------------|---------|-------|
| Grizzly | 3.2 | A | #97 | 0.6 | FGHIJ |
| El Guapo | 2.0 | B | 18C1230 | 0.6 | FGHIJ |
| Growler | 1.6 | BC | Meridian | 0.5 | GHIJ |
| Midway | 1.4 | CD | #99 | 0.4 | GHIJK |
| Kyoto | 1.2 | CD | #98 | 0.4 | GHIJK |
| Primo | 1.2 | CD | Blas | 0.3 | HIJK |
| 4204 | 1.2 | DE | PX 1671 | 0.3 | HIJK |
| 4083 | 1.0 | DEF | Franchise | 0.3 | IJK |
| Tamarack | 0.8 | EFG | Fredonia | 0.2 | IJK |
| #83 | 0.7 | FGH | #14 | 0.2 | JK |
| Desert Eagle | 0.7 | FGH | Powerball | 0.1 | K |
| Dover | 0.7 | FGH | #13 | 0.1 | K |
| Copper | 0.6 | FGHI | | | |

^z Disease Severity (DS) was recorded by evaluating on a 0-4 disease severity scale 0 = symptomless plants; 1=slight chlorosis on outer leaves, stunting; 2 = more extensive chlorosis and stunting, in-slot varieties have stunted head; 3 = severe stunting, chlorosis, and no head formation; and 4 = remaining leaves are chlorotic and nearly dead, or plant is entirely dead. Mean DS was calculated by averaging 50 plants from each of the four replicates.

2020 Wellton Field Trial Results-Iceberg

| Lettuce cultivar | Mean DS ^z | | Lettuce cultivar | Mean DS | |
|------------------|----------------------|-----|------------------|---------|----|
| #71 | 1.0 | F | Primo | 2.4 | BC |
| Meridian | 1.1 | EF | #71 | 2.5 | BC |
| #12 | 1.2 | EF | Tamarack | 2.8 | BC |
| #13 | 1.3 | DEF | 4083 | 3.0 | AB |
| #14 | 1.5 | DEF | El Guapo | 3.1 | AB |
| #71 | 1.9 | CDE | Growler | 3.1 | AB |
| Copper | 1.9 | CDE | Slotmachine | 3.1 | AB |
| Desert Eagle | 2.1 | CD | #83 | 3.2 | AB |
| 4204 | 2.1 | CD | Dover | 3.3 | AB |
| #71 | 2.1 | CD | Kyoto | 3.7 | A |
| Blas | 2.2 | CD | Grizzly | 3.9 | A |

^z Disease Severity (DS) was recorded by evaluating on a 0-4 disease severity scale 0 = symptomless plants; 1=slight chlorosis on outer leaves, stunting; 2 = more extensive chlorosis and stunting, in-slot varieties have stunted head; 3 = severe stunting, chlorosis, and no head formation; and 4 = remaining leaves are chlorotic and nearly dead, or plant is entirely dead. Mean DS was calculated by averaging 50 plants from each of the four replicates.



2021 Field Trial Results-Iceberg

| Lettuce cultivar | Mean DS ^z | | % MH ^y | |
|------------------|----------------------|------|-------------------|----------|
| | Mean | SD | Mean | SD |
| Powerball | 0.8 | m | 80.5 | a |
| Fredonia | 1.4 | m | 67.5 | ab |
| 18C1230 | 1.7 | m | 49.5 | bc |
| Oracle | 1.7 | m | 42.5 | cd |
| PX 1671 | 1.7 | l | 34.5 | cdef |
| Midway | 2.1 | l | 14.5 | efghijk |
| Blas | 2.1 | kl | 37 | cdef |
| Desert Eagle | 2.3 | jkl | 30.5 | cdefg |
| Frosty | 2.3 | jkl | 38 | cde |
| Meridian | 2.3 | ijkl | 24.5 | defghij |
| Franchise | 2.4 | hijk | 28.5 | cdefgh |
| SV4204 | 2.6 | hij | 25 | defghi |
| Raider | 2.6 | hij | 15 | efghijk |
| Uppercut | 2.6 | ghi | 34 | cdef |
| Hotshot | 2.7 | ghi | 17 | efghijk |
| Sun Devil | 2.7 | gh | 10 | ghijk |
| Sunquest | 2.8 | gh | 10 | ghijk |
| Javalina | 2.9 | gh | 21.5 | defghijk |
| Estival | 2.9 | fgh | 5 | ijk |
| Dover | 2.9 | fg | 22 | defghijk |

| Lettuce cultivar | Mean DS | | % MH | |
|------------------|---------|------|------|-------|
| | Mean | SD | Mean | SD |
| PYB 7101 | 3.0 | ef | 6.5 | hijk |
| LT 4083 | 3.2 | def | 8 | ghijk |
| Tamarack | 3.2 | cde | 5 | ijk |
| Slot Machine | 3.5 | bcde | 8 | ghijk |
| Coyote | 3.6 | bcd | 0.5 | k |
| Lucky | 3.6 | abc | 10 | ghijk |
| Prescott | 3.6 | bcd | 2.5 | ijk |
| Growler | 3.7 | abc | 3.5 | ijk |
| El Guapo | 3.7 | abc | 1 | k |
| Huskey | 3.8 | abc | 0 | k |
| Winter Select | 3.9 | abc | 0 | k |
| Quest | 3.9 | ab | 1 | k |
| EXP 1221 | 3.9 | a | 1.5 | jk |
| Darkhorse | 4.0 | a | 0 | k |
| Serengeti | 4.0 | a | 0 | k |
| Antelope | 4.0 | a | 0 | k |
| Grizzly | 4.0 | a | 0 | k |
| Pocona | 4.0 | a | 0 | k |
| Supai | 4.0 | a | 0 | k |
| Bubba | 4.0 | a | 0 | k |

^z Disease Severity (DS) was recorded by evaluating on a 0-4 disease severity scale 0 = symptomless plants; 1=slight chlorosis on outer leaves, stunting; 2 = more extensive chlorosis and stunting, in-slot varieties have stunted head; 3 = severe stunting, chlorosis, and no head formation; and 4 = remaining leaves are chlorotic and nearly dead, or plant is entirely dead. Mean DS was calculated by averaging 50 plants from each of the four replicates.

^y Marketable Heads (MH) was recorded as a plant having a head >5 inches and no symptomatic leaves on the head. Outer wrapper leaves may show symptoms.



2021 Field Trial Results-Romaine

| Lettuce cultivar | Mean DS ^z | |
|------------------|----------------------|-----|
| | | |
| Sweetheart* | 1 | 0.5 |
| Adempak | 2 | 0.8 |
| Boranda* | 2 | 1.4 |
| Holbrook* | 3 | 1.0 |
| Big Green Cos* | 3 | 0.6 |
| Camino Verde* | 4 | 1.0 |
| Sun Valley* | 4 | 0.8 |
| Sunland | 5 | 2.5 |
| Valley Heart | 5 | 1.3 |
| Fresh Heart* | 6 | 1.8 |
| Roseheart* | 7 | 2.6 |
| Carizzo* | 8 | 2.4 |
| Jara | 8 | 0.8 |
| Platinum* | 8 | 1.2 |
| Del Sol | 9 | 2.4 |
| Green Forest* | 9 | 1.7 |
| Mesquite* | 9 | 1.3 |
| Sweetheart* | 1 | 0.5 |
| Adempak | 2 | 0.8 |
| Boranda* | 2 | 1.4 |

| Lettuce cultivar | Mean DS | |
|------------------|---------|-----|
| | | |
| SV8403LN* | 10 | 3.5 |
| Solid Heart | 10 | 1.4 |
| Pacific Heart* | 11 | 4.4 |
| SV8893LN | 11 | 3.7 |
| Vaquero | 11 | 2.4 |
| Vicious | 12 | 3.9 |
| River Road* | 13 | 2.6 |
| Grackle | 14 | 4.7 |
| Prospector | 14 | 3.7 |
| Pinion* | 15 | 3.6 |
| True Heart* | 15 | 1.0 |
| Blue Rock* | 16 | 2.2 |
| Rocky Row* | 18 | 5.2 |
| Valencia* | 19 | 1.3 |
| Fort Romie | 20 | 5.4 |
| Duquesne | 25 | 4.3 |
| Solid King | 31 | 4.6 |
| Patton | 32 | 5.0 |
| Solid King EL | 33 | 5.0 |
| Sunbelt | 39 | 4.2 |

^z Disease Severity (DS) was recorded by evaluating on a 0-4 disease severity scale 0 = symptomless plants; 1=slight chlorosis on outer leaves, stunting; 2 = more extensive chlorosis and stunting, in-slot varieties have stunted head; 3 = severe stunting, chlorosis, and no head formation; and 4 = remaining leaves are chlorotic and nearly dead, or plant is entirely dead. Mean DS was calculated by averaging 50 plants from each of the four replicates.

^y Marketable Heads (MH) was recorded as a plant having a head >5 inches and no symptomatic leaves on the head. Outer wrapper leaves may show symptoms.

*out-of-slot cultivars



2022 Field Trial Results-Iceberg

| Lettuce cultivar | Mean DS ² | | Lettuce cultivar | Mean DS | |
|------------------|----------------------|-------|------------------|---------|-------|
| 21713 | 0.1 | F | Havasu | 0.3 | BCDEF |
| Balboa | 0.1 | F | 33 | 0.3 | BCDEF |
| Powerball | 0.1 | F | Hotshot | 0.4 | BCDEF |
| Meridian | 0.1 | F | Tamarack | 0.4 | BCDEF |
| Blas | 0.1 | EF | Paulie | 0.4 | BCDEF |
| Adrian | 0.1 | EF | Hercules | 0.5 | BCDE |
| Fredonia | 0.2 | EF | SVLD0093 | 0.6 | BCD |
| Micky | 0.2 | DEF | Outfitter | 0.6 | BCD |
| Estival | 0.2 | CDEF | El Guapo | 0.6 | BC |
| P41698 | 0.2 | BCDEF | Uppercut | 0.6 | B |
| Desert Eagle | 0.2 | BCDEF | 180 | 0.6 | B |
| Big Shot | 0.3 | BCDEF | SVLD0184 | 0.6 | B |
| Franchise | 0.3 | BCDEF | Bankroll | 1.2 | A |
| 229 | 0.3 | BCDEF | Canyon | 1.5 | A |
| Paonia | 0.3 | BCDEF | | | |

² Disease Severity (DS) was recorded by evaluating on a 0-4 disease severity scale 0 = symptomless plants; 1=slight chlorosis on outer leaves, stunting; 2 = more extensive chlorosis and stunting, in-slot varieties have stunted head; 3 = severe stunting, chlorosis, and no head formation; and 4 = remaining leaves are chlorotic and nearly dead, or plant is entirely dead. Mean DS was calculated by averaging 50 plants from each of the four replicates.

³ Marketable Heads rating was not reported this year due to uneven stands due to high humidity at germination.



2022 Field Trial Results-Romaine

| Lettuce cultivar | Mean DS ^z | | Lettuce cultivar | Mean DS | |
|------------------|----------------------|----|------------------|---------|----|
| Sunland | 1.0 | C | Vicious | 1.1 | BC |
| Cardinal | 1.0 | BC | Klondike | 1.1 | BC |
| Pacific Heart | 1.0 | BC | Aticamp | 1.1 | BC |
| Grackle | 1.0 | BC | Poulidor | 1.1 | BC |
| Momentous | 1.0 | BC | Bluerock | 1.1 | BC |
| Boronda | 1.0 | BC | Carizzo | 1.1 | BC |
| Placer | 1.0 | BC | Warbler | 1.1 | BC |
| Pinion | 1.1 | BC | Duquesne | 1.1 | B |
| Sunland | 1.0 | C | | | |

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^yMarketable Heads rating was not reported this year due to uneven stands due to high humidity at germination.



2023 Field Trial Results-Iceberg

| Lettuce cultivar | Mean DS ^z | | % MH ^y | | Lettuce cultivar | Mean DS | | % MH | |
|------------------|----------------------|------|-------------------|------|------------------|---------|------|------|------|
| Micky | 0.0 | g | 84 | ab | LICU18-0033 | 0.2 | defg | 79.5 | abc |
| KWS 4612 | 0.0 | g | 82 | abc | Dover | 0.3 | defg | 73.5 | abc |
| Pauli | 0.0 | g | 94 | a | Nupic | 0.4 | def | 79 | abc |
| Adrian | 0.0 | g | 75.5 | abc | LICU20-0138 | 0.4 | de | 79 | abc |
| Mr. T | 0.0 | g | 93.5 | a | LICS19-0033 | 0.4 | d | 56.5 | abcd |
| Powerball | 0.1 | g | 84 | ab | Franchise | 0.5 | de | 65 | abcd |
| Fredonia | 0.1 | fg | 78 | abc | Desert Eagle | 0.5 | d | 64 | abcd |
| Balboa | 0.1 | fg | 90 | a | Tamarack | 1.2 | c | 36.5 | cd |
| Meridian | 0.1 | fg | 76.5 | abc | El Guapo | 1.4 | c | 39 | bcd |
| XLE 12301 | 0.1 | efg | 92 | a | Sand Storm | 2.1 | b | 41.5 | bcd |
| 19c1293 | 0.2 | defg | 59 | abcd | Grizzly | 2.5 | a | 24 | d |
| | | | | | | | | | |

^zDisease Severity (DS) was recorded by evaluating on a 0-4 disease severity scale 0 = symptomless plants; 1=slight chlorosis on outer leaves, stunting; 2 = more extensive chlorosis and stunting, in-slot varieties have stunted head; 3 = severe stunting, chlorosis, and no head formation; and 4 = remaining leaves are chlorotic and nearly dead, or plant is entirely dead. Mean DS was calculated by averaging 50 plants from each of the four replicates.

^yMarketable Heads (MH) was recorded as a plant having a head >5 inches and no symptomatic leaves on the head. Outer wrapper leaves may show symptoms.



2023 Field Trial Results-Romaine

| Lettuce cultivar | Mean DS ^z | | Root Discoloration ^y | | Lettuce cultivar | Mean DS | | Root Discoloration ^y | |
|------------------|----------------------|---|---------------------------------|-------|------------------|---------|----|---------------------------------|-------|
| Grackle | 0.1 | C | 0 | E | ROM 21616 | 0.2 | C | 1 | CDE |
| Pulse/18503 | 0.1 | C | 0 | E | Boronda* | 0.2 | C | 0.75 | DE |
| Valley Heart | 0.1 | C | 0.25 | E | Momentous* | 0.3 | C | 0.75 | DE |
| Del Sol | 0.1 | C | 0 | E | Luminous* | 0.3 | C | 2 | ABCDE |
| Copius | 0.1 | C | 0 | E | PINION* | 0.3 | C | 2 | ABCDE |
| Poulidor* | 0.1 | C | 0.75 | DE | Fort Romie* | 0.4 | BC | 4.25 | A |
| Placer | 0.1 | C | 0.25 | E | Laredo | 0.5 | BC | 3.5 | ABC |
| Duquesne | 0.1 | C | 0 | E | Farmin RZ* | 0.5 | BC | 2 | ABCDE |
| ROM 22804 | 0.2 | C | 0.5 | DE | Jammin RZ* | 0.5 | BC | 3 | ABCD |
| Vicious* | 0.2 | C | 1.25 | BCDE | Sunbelt* | 0.8 | B | 3.75 | AB |
| Carrizzo* | 0.2 | C | 0.75 | DE | Bondi | 2.7 | A | 5 | A |
| Adicamp* | 0.2 | C | 2 | ABCDE | | | | | |

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^y Root discoloration = average root discoloration of 5 roots per plot



California Trials 2023

Results from the CA trials need further analysis due to multiple pathogens causing disease and due to variants of the Fusarium wilt pathogen in the field.

Wet dates for both locations was May 20th

Fifty plants were rated for marketability (MH) based on the recommendations of harvesting professionals. Cultivars that were out-of-slot or not developed for the planting region may have a low marketable head rating that is not related to disease severity. The romaine cultivars at the Santa Maria site were past maturity, which affected MH counts.

Analysis of variance (ANOVA) on disease severity and marketable head data was performed ($P \leq 0.05$) followed by post-hoc comparison of varieties using Tukey's honest significance difference (HSD) test. In the graphs on the following pages, cultivars with the same letter are not significantly different.

These trials were in collaboration with:

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Alex Putman -aiputman@ucr.edu

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2023 King City CA Field Trial Results-Iceberg

Results from the CA trials need further analysis due to multiple pathogens causing disease and due to multiple races of the Fusarium wilt pathogen in the field.

| Lettuce cultivar | Mean DS ^z | | % MH ^y | | Lettuce cultivar | Mean DS | | % MH | |
|------------------|----------------------|----|-------------------|------|------------------|---------|----|------|---|
| San Andreas | 0.1 | I | 25.3 | A | Telluride | 3.1 | C | 0.0 | F |
| Paraiso | 0.2 | I | 23.5 | AB | Primo | 3.2 | BC | 0.0 | F |
| San Miguel | 0.3 | I | 16.3 | ABC | Oso Flaco | 3.2 | BC | 0.3 | F |
| Armstrong | 0.4 | I | 23.8 | AB | Black Horse | 3.5 | B | 0.3 | F |
| Powerball | 0.7 | H | 11.8 | CDE | Vail | 3.5 | B | 0 | F |
| Meridian | 1.2 | G | 13.8 | BCD | Chalone | 3.5 | B | 0.0 | F |
| Confidential | 1.2 | G | 9.3 | CDEF | Roper | 3.6 | B | 0.0 | F |
| Molera | 1.3 | G | 11.5 | CDE | Tamarack | 4.0 | A | 0.0 | F |
| Confidential | 1.8 | F | 15.3 | ABC | Tombstone | 4.0 | A | 0.0 | F |
| Pueblo | 2.4 | E | 3.8 | DEF | Republic | 4.0 | A | 0.0 | F |
| Fredonia | 2.5 | DE | 2.3 | EF | El Guapo | 4.0 | A | 0.0 | F |
| Newcastle | 2.7 | D | 1.0 | EF | Salute | 4.0 | A | 0.0 | F |

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^y Marketable Heads (MH) was recorded as a plant having a head >5 inches and no symptomatic leaves on the head. Outer wrapper leaves may show symptoms.

2023 King City CA Field Trial Results-Romaine

Results from the CA trials need further analysis due to multiple pathogens causing disease and due to multiple races of the Fusarium wilt pathogen in the field.

| Lettuce cultivar | Mean DS ^z | | % MH ^y | | Lettuce cultivar | Mean DS | | % MH | |
|------------------|----------------------|------|-------------------|----|------------------|---------|----|------|----|
| Inferno | 0.2 | M | 2.0 | AB | Rawhide | 0.9 | G | 9.3 | AB |
| Arroyo | 0.3 | LM | 2.5 | AB | Carbine | 1.0 | G | 2.3 | AB |
| Abilene | 0.3 | KLM | 9.5 | AB | Momentum | 1.8 | F | 6.8 | AB |
| Holbrook | 0.5 | JKL | 8.8 | AB | Adicamp | 2.2 | E | 0 | B |
| Golden Forest | 0.5 | IJKL | 10.3 | AB | Vicious | 2.4 | DE | 0 | B |
| Cardinal | 0.5 | IJKL | 7.0 | AB | Laredo | 2.5 | CD | 0 | B |
| Patton | 0.6 | HIJK | 2.5 | AB | Farmin RZ | 2.8 | BC | 0 | B |
| Deuquesne | 0.7 | GHIJ | 9.5 | AB | Klondike | 2.9 | B | 0 | B |
| Sunland | 0.7 | GHIJ | 1.3 | AB | Fort Romie | 2.9 | B | 0 | B |
| Boranda | 0.8 | GHI | 12.5 | A | Jammin RZ | 3.0 | B | 0 | B |
| Solid Heart | 0.9 | GH | 1.0 | AB | Sunbelt | 3.1 | B | 0 | B |
| Valencia | 0.9 | GH | 3.8 | AB | Salvius | 3.7 | A | 0 | B |

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^y Marketable Heads (MH) was recorded as a plant having a head >5 inches and no symptomatic leaves on the head. Outer wrapper leaves may show symptoms.

2023 Santa Maria CA Field Trial Results-Iceberg

Results from the CA trials need further analysis due to multiple pathogens causing disease and due to multiple races of the Fusarium wilt pathogen in the field.

| Lettuce cultivar | Mean DS ^z | | % MH ^y | | Lettuce cultivar | Mean DS | | % MH | |
|------------------|----------------------|---|-------------------|------|------------------|---------|----|-------|------|
| Paraiso | 0.0 | G | ABCDE | 30.5 | Primo | 1.8 | E | GHIJ | 5.8 |
| Canyon | 0.0 | G | AB | 36.0 | Telluride | 2.0 | DE | IJ | 2.0 |
| Meridian | 0.0 | G | EFGHI | 15.8 | Roper | 2.1 | DE | HIJ | 4.8 |
| Molera | 0.0 | G | A | 40.0 | Black Horse | 2.1 | DE | HIJ | 5.3 |
| Powerball | 0.0 | G | ABC | 34.0 | Oso Flaco | 2.2 | DE | FGHIJ | 10.0 |
| San Andreas | 0.0 | G | ABCDE | 30.0 | Vail | 2.3 | D | HIJ | 2.5 |
| Armstrong | 0.1 | G | BCDEF | 22.8 | Chalone | 2.6 | C | IJ | 1.0 |
| San Miguel | 0.1 | G | ABCD | 31.3 | Tamarack | 2.8 | C | J | 0.0 |
| Hercules | 0.1 | G | ABCD | 31.8 | Tombstone | 3.5 | B | J | 0.0 |
| XLE12301 | 0.1 | G | A | 42.8 | Salute | 3.5 | B | J | 0.0 |
| Balboa | 0.3 | G | DEFGH | 17.3 | Republic | 3.6 | AB | J | 0.0 |
| Fredonia | 0.3 | G | CDEFG | 20.8 | El Guapo | 3.6 | AB | J | 0.0 |
| Newcastle | 1.3 | F | FGHIJ | 9.3 | Stagecoach | 3.6 | AB | J | 0.0 |
| Pueblo | 1.4 | F | DEFGH | 17.3 | Darlington | 3.9 | A | J | 0.3 |

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^y Marketable Heads (MH) was recorded as a plant having a head >5 inches and no symptomatic leaves on the head. Outer wrapper leaves may show symptoms.

2023 Santa Maria CA Field Trial Results-Romaine

Results from the CA trials need further analysis due to multiple pathogens causing disease and due to multiple races of the Fusarium wilt pathogen in the field.

| Lettuce cultivar | Mean DS ^z | | % MH ^y | | Lettuce cultivar | Mean DS | | % MH | |
|------------------|----------------------|-------|-------------------|-------|------------------|---------|-------|-------|-------|
| Abilene | 0.1 | O | 23.5 | AB | Adicamp | 0.1 | IJKLM | 23.25 | AB |
| Stampede | 0.1 | O | 12.5 | ABCDE | Rawhide | 0.1 | HIJKL | 15.75 | ABCDE |
| Solid Heart | 0.1 | NO | 15 | ABCDE | Blue Rock | 0.1 | HIJK | 18.5 | ABCD |
| Valencia | 0.1 | NO | 19.5 | ABC | Momentum | 0.1 | GHIJ | 17.25 | ABCDE |
| Arroyo | 0.1 | MNO | 9.5 | ABCDE | Farmin RZ | 0.1 | FGHI | 14.75 | ABCDE |
| Sunland | 0.1 | MNO | 15.25 | ABCDE | Laredo | 0.1 | FGH | 7 | BCDE |
| Cardinal | 0.1 | MNO | 14 | ABCDE | Jammin RZ | 0.1 | EFG | 15.75 | ABCDE |
| Holbrook | 0.2 | MNO | 25.25 | A | Carbine | 0.2 | EF | 18.75 | ABCD |
| Golden Forest | 0.2 | LMNO | 18.75 | ABCD | Fort Romie | 0.2 | DE | 0 | E |
| Deuquesne | 0.2 | KLMNO | 17.75 | ABCD | Vicious | 0.2 | DE | 6.5 | BCDE |
| Inferno | 0.2 | KLMNO | 17 | ABCDE | Klondike | 0.2 | D | 3 | CDE |
| Boranda | 0.2 | KLMNO | 23.5 | AB | Sunbelt | 0.2 | C | 0 | E |

^zDisease Severity (DS) was recorded by evaluating on a 0-4 disease severity scale 0 = symptomless plants; 1=slight chlorosis on outer leaves, stunting; 2 = more extensive chlorosis and stunting, in-slot varieties have stunted head; 3 = severe stunting, chlorosis, and no head formation; and 4 = remaining leaves are chlorotic and nearly dead, or plant is entirely dead. Mean DS was calculated by averaging 50 plants from each of the four replicates.

^yMarketable Heads (MH) was recorded as a plant having a head >5 inches and no symptomatic leaves on the head. Outer wrapper leaves may show symptoms.