# MANAGING PECAN SCAB THROUGH VARIETY SELECTION- THE GEORGIA PECAN BREEDING PROGRAM

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# Scab Resistance

- A primary factor in cultivar choice.
- The resistance of a pecan cultivar will be influenced by the races present where it is grown.
- There tends to more scab pressure as you go south and east.
- Do not plant a susceptible cultivar if you can not spray.



# Points to Consider

- Scab varies by location.
- Cultivars often appear to lose resistance over time.
- Black aphids may require spraying even if scab doesn’t.
- Very early cultivars will be heavily fed on by crows, they must be harvested when ready.
- Cultivars with high early yields usually must be crop thinned when mature.

# Recommended for low spray / high pressure situations

**Strong Resistance**

McMillan

Excel

Lakota

Gafford

Elliott

Amling

**Partial Resistance**

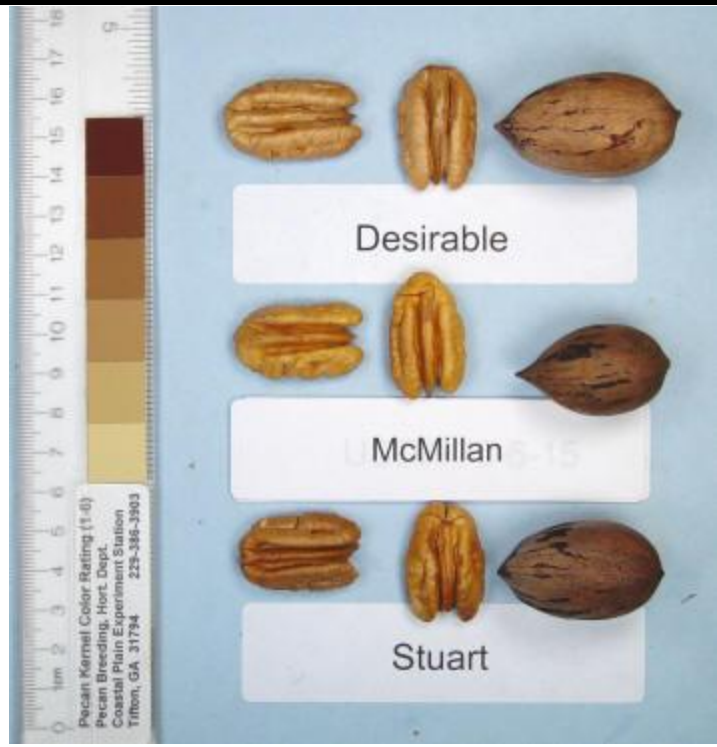
Sumner

Creek

Moreland

# McMillan

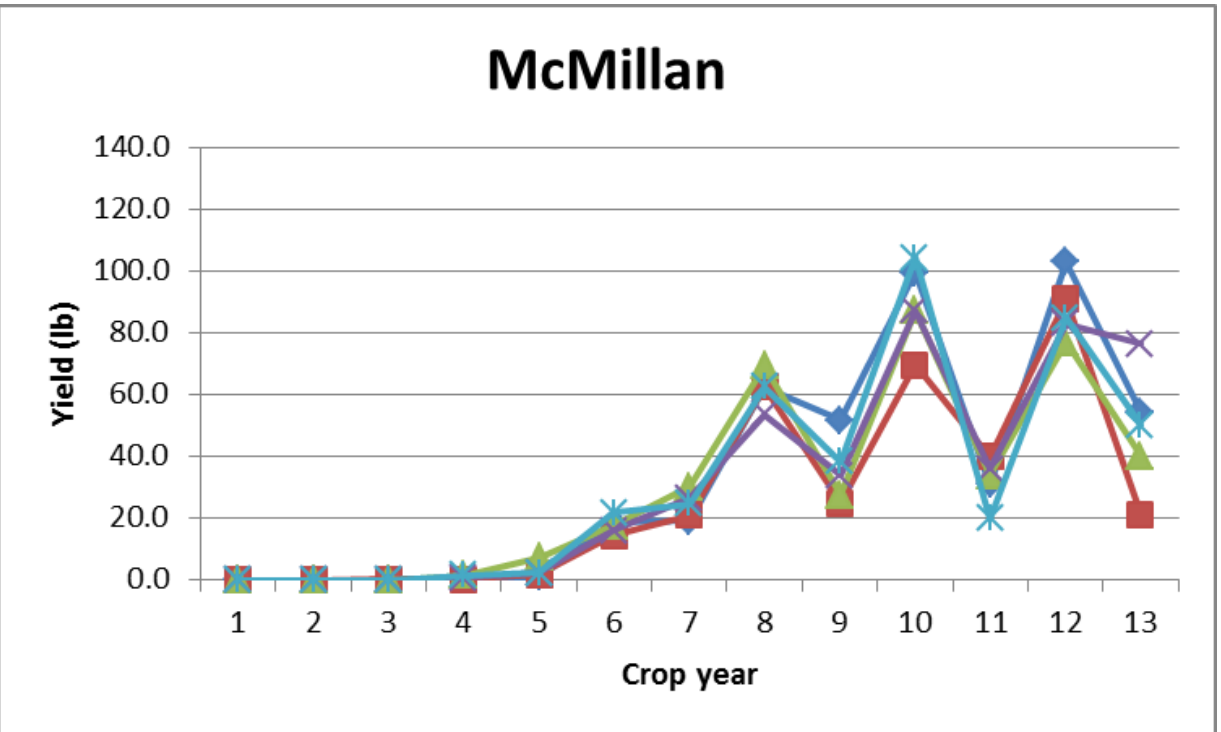
- Excellent overall pest resistance.
- Medium sized nut.
- Medium quality kernel.
- Excellent productivity.




# McMillan

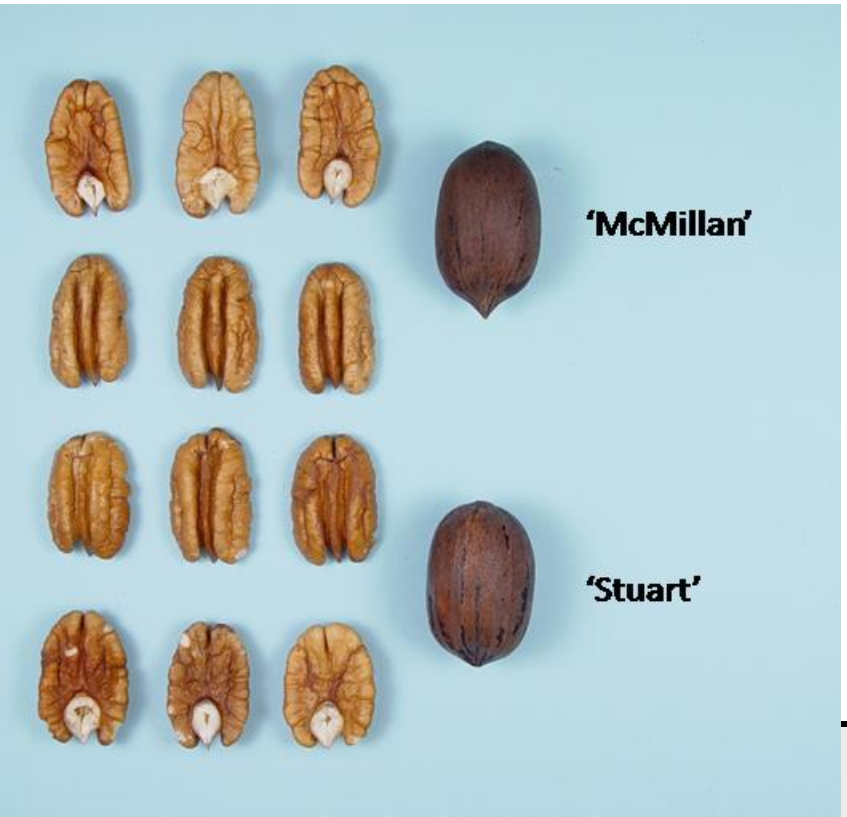
Yield (pounds / tree) of Excel each year from planting.

| Cultivar | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | Avg. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| McMillan | 1 | 3 | 18 | 24 | 63 | 35 | 90 | 32 | 88 | 49 | 31 |
| Desirable | 1 | 3 | 12 | 20 | 20 | 45 | 53 | 45 | 43 | 57 | 24 |
| Stuart | 0 | 1 | 7 | 20 | 30 | 54 | 48 | 58 | 76 | 68 | 28 |



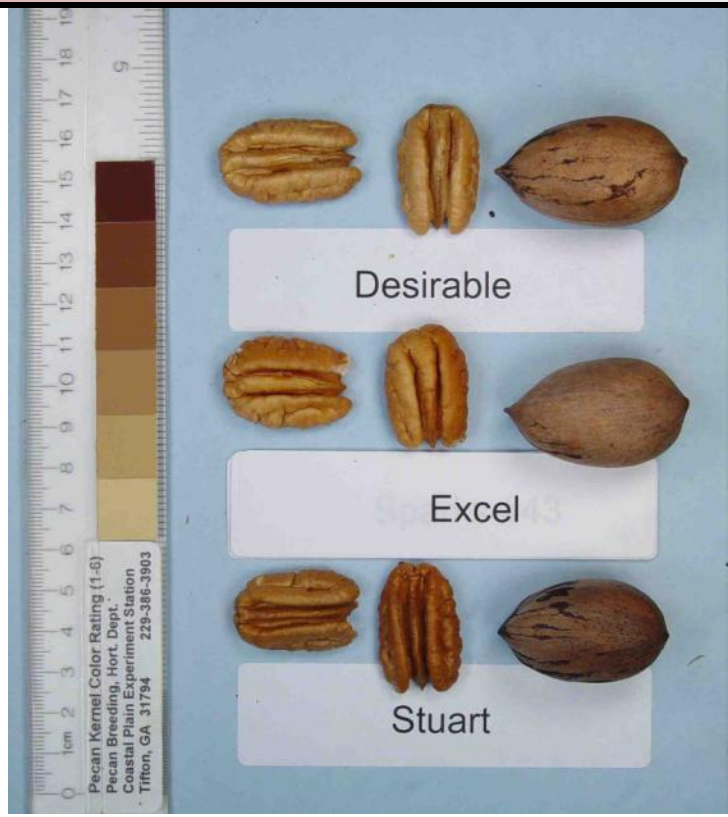
# McMillan

| Cultivar | Nuts / pound | % Kernel | Harvest | Nut scab | Black aphid damage |
|---|---|---|---|---|---|
| McMillan | 51 | 50 | Oct. 12 | 1.0 (1.0) | 1.5 (2.2) |
| Desirable | 43 | 52 | Oct. 14 | 2.5 (4.4) | 1.7 (2.7) |
| Stuart | 47 | 45 | Oct. 12 | 1.5 (3.5) | 2.3 (3.8) |



# Excel

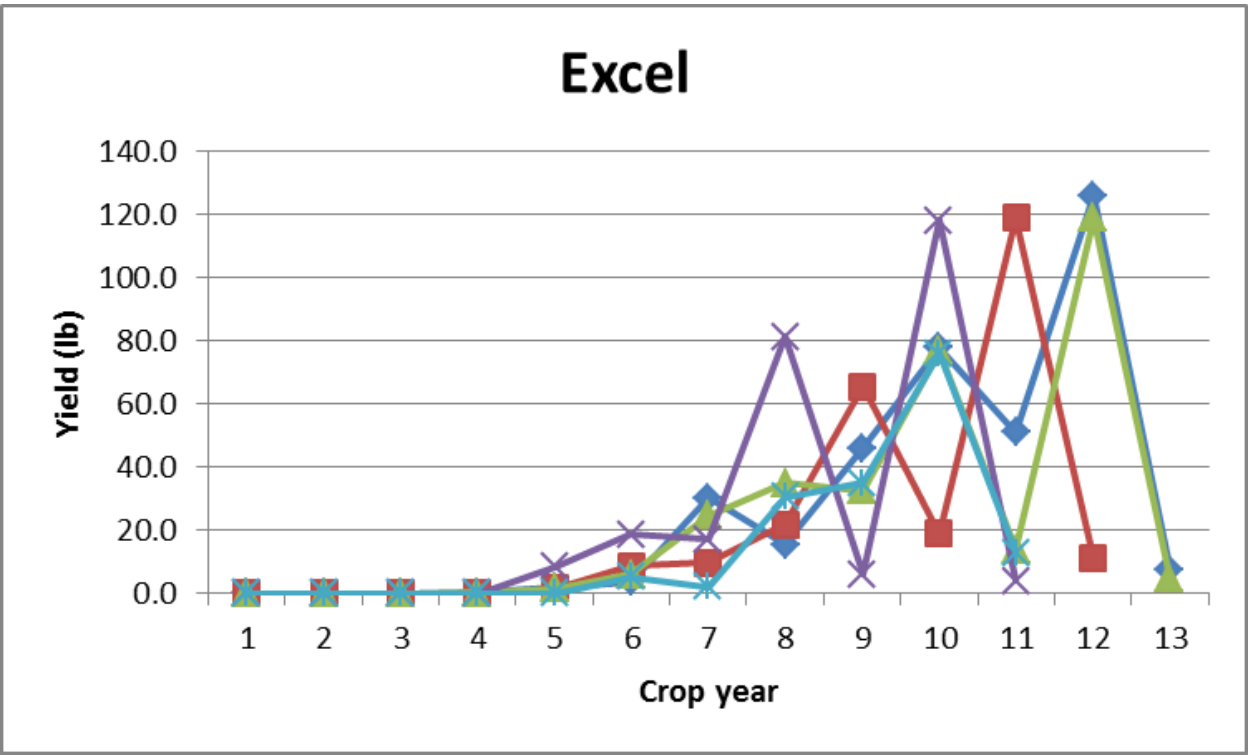
- Excellent overall pest resistance.
- Large sized nut.
- Thick shell reduces % kernel.
- Thin canopy.
- Earliness is variable, not early in Tifton.



# Excel

Yield (pounds / tree) of Excel each year from planting.

| Cultivar | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | Avg. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Excel | 0 | 3 | 8 | 17 | 37 | 37 | 74 | 40 | 85 | 6 | 24 |
| Desirable | 1 | 3 | 12 | 20 | 20 | 45 | 53 | 45 | 43 | 57 | 24 |
| Stuart | 0 | 1 | 7 | 20 | 30 | 54 | 48 | 58 | 76 | 68 | 28 |



# Excel

| Cultivar | Nuts / pound | % Kernel | Harvest | Nut scab | Black aphid damage |
|---|---|---|---|---|---|
| Excel | 45 | 49 | Oct. 7 | 1.0 (1.0) | 1.4 (2.2) |
| Desirable | 43 | 52 | Oct. 14 | 2.5 (4.4) | 1.7 (2.7) |
| Stuart | 47 | 45 | Oct. 12 | 1.5 (3.5) | 2.3 (3.8) |

# Lakota

- USDA release in 2007.
- No scab anywhere, so far.
- Vigorous tree.
- Early harvest, end of Sept.
- High precocity, will need crop thinning.


Variable nut size – 50-55 nuts/lb.
58% kernel

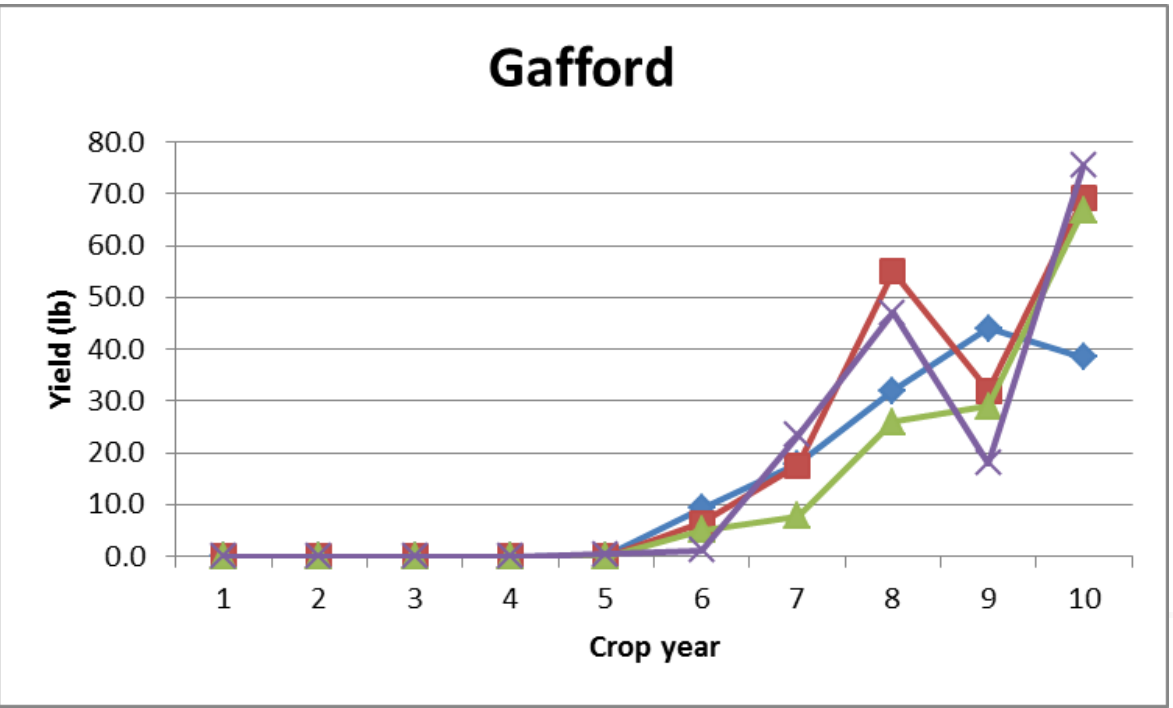
# Gafford

- Excellent overall pest resistance.
- Bigger but less quality than McMillan.
- Occasional kernel spotting.
- Midseason harvest.


# Gafford

Yield (pounds / tree) of Excel each year from planting.

| Cultivar | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | Avg. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gafford | 0 | 0 | 6 | 17 | 40 | 31 | 63 | | | | 16 |
| Desirable | 0 | 1 | 4 | 16 | 29 | 30 | 37 | | | | 12 |
| Sumner | 0 | 2 | 8 | 27 | 25 | 73 | 33 | | | | 17 |



# Gafford

| Cultivar | Nuts / pound | % Kernel | Harvest | Nut scab | Black aphid damage |
|---|---|---|---|---|---|
| Gafford | 49 | 51 | Oct. 28 | 1.0 (1.0) | 1.1 (1.3) |
| Desirable | 43 | 52 | Oct. 14 | 2.5 (4.4) | 1.7 (2.7) |
| Stuart | 47 | 45 | Oct. 12 | 1.5 (3.5) | 2.3 (3.8) |

# Elliott

- Long standing high resistance.
- Well-known cultivar.
- Alternates.
- Small nut size.

77 nuts / lb.

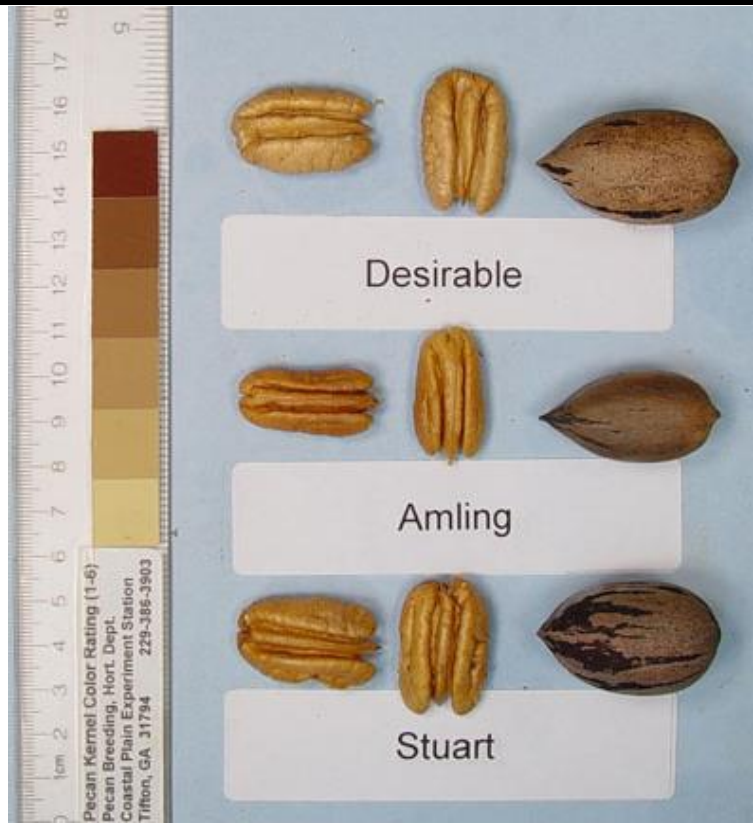
51% kernel

# Amling

- Excellent overall pest resistance.
- Small nut size.
- Midseason harvest.
- Excellent yard tree.

62 nuts / lb.

55% kernel



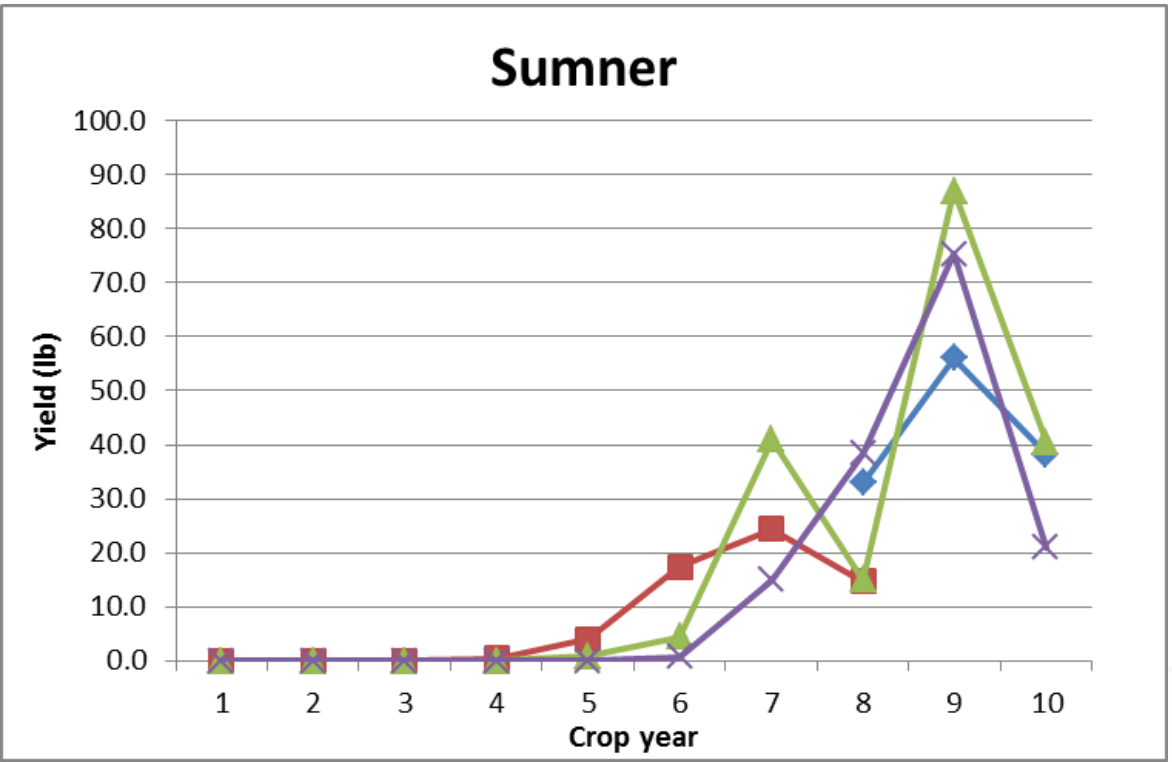
# Sumner

- Popular scab resistant cultivar in Georgia.
- Will scab without sprays.
- Black aphids are a problem.
- Late harvest.
- Good size and quality.

# Sumner

Yield (pounds / tree) of Excel each year from planting.

| Cultivar | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | Avg. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sumner | 0 | 2 | 8 | 27 | 25 | 73 | 33 | | | | 17 |
| Desirable | 0 | 1 | 4 | 16 | 29 | 30 | 37 | | | | 12 |



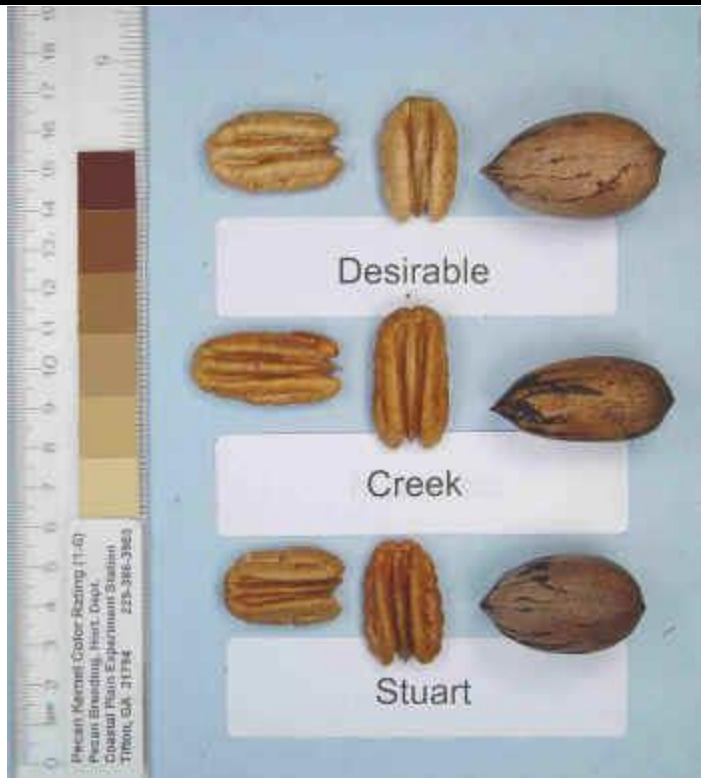
# Sumner

| Cultivar | Nuts / pound | % Kernel | Harvest | Nut scab | Black aphid damage |
|---|---|---|---|---|---|
| Sumner | 54 | 51 | Oct. 29 | 1.0 (1.0) | 1.9 (3.0) |
| Desirable | 43 | 52 | Oct. 14 | 2.5 (4.4) | 1.7 (2.7) |
| Stuart | 47 | 45 | Oct. 12 | 1.5 (3.5) | 2.3 (3.8) |

% kernel would be improved with crop thinning.

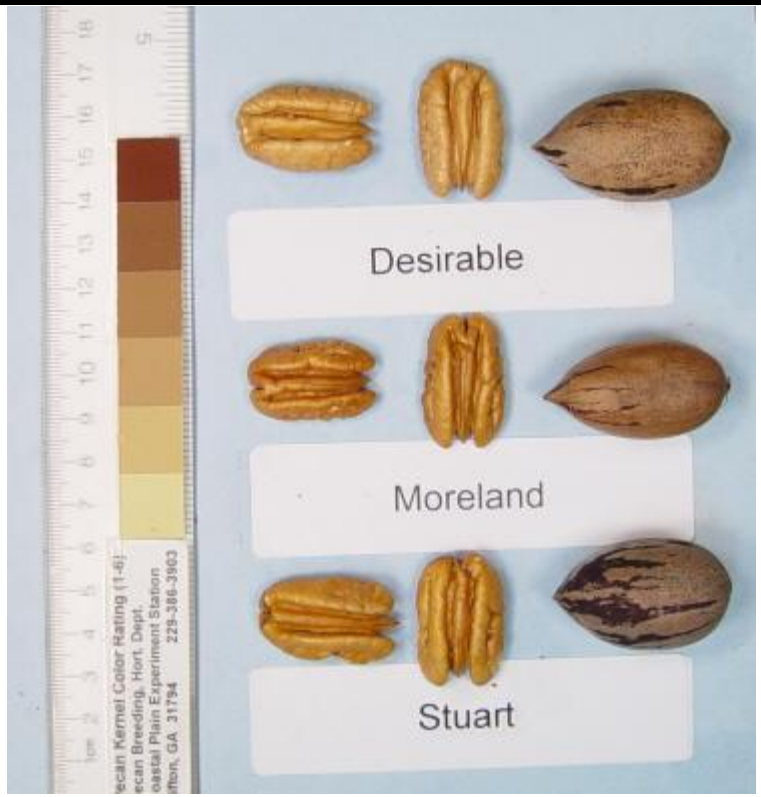
# Creek

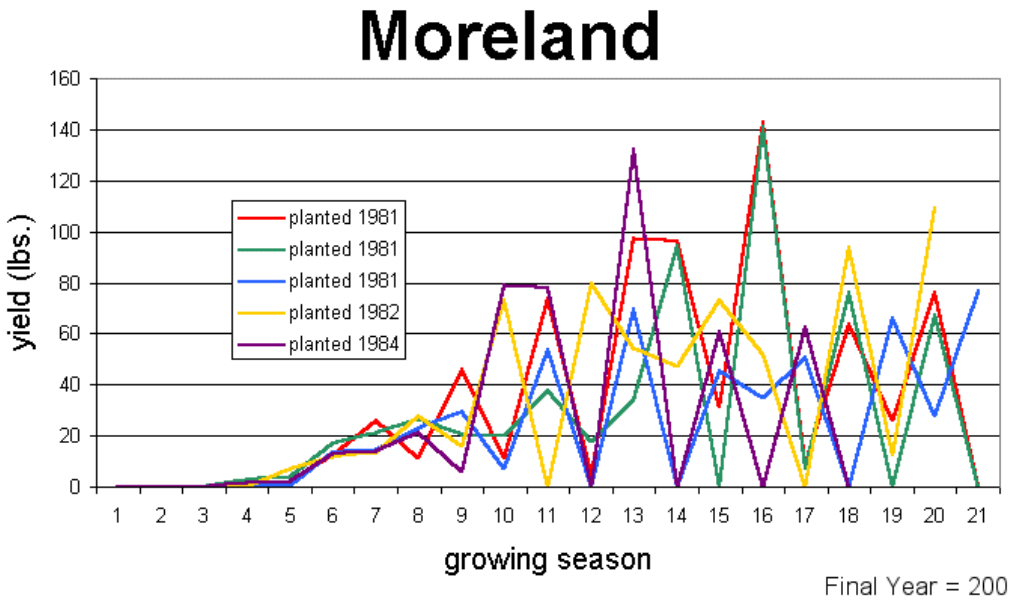
- USDA release in 1996.
- 55 nuts/lb and 48% kernel. (without thinning).
- Overloads badly, needs crop thinning.
- Upright strong tree.
- Reported to bear well in competition.
- Only plant it if you will summer crop thin!



# Moreland

- 61 nuts/lb and 52% kernel. (without thinning).
- Good yields.
- Crop thinning would be beneficial.
- 1 week after Stuart.



# Excellent Resistance

- What I would plant.
  - McMillan : Great overall pest resistance, good productivity.
  - Excel : Good overall pest resistance, large size, needs thinning.
  - Gafford:  Pollinator for either McMillan or Excel.

- What I might plant.
  - Lakota : Little data so far, but is early with good quality.

# Excellent resistance

- What I wouldn't plant.
  - Headquarters : Hard to shell, poor looking kernel.
  - Syrup Mill : Percent kernel is too low.
  - Suprize : Kernel quality was terrible in Tifton.
  - Gloria Grande : Kernel was often poor in Tifton, black aphids are bad.
  - Curtis : Too late and small, often spotted.

- Poor Resistance
  - Pawnee
  - Desirable
  - Byrd
  - Cunard
  - Morrill
  - Treadwell
  - Sioux
  - Stuart
  - Forkert
  - Cape Fear
  - Zinner
  - Giftpack

**ALL THIS INFORMATION AND MORE IS ON OUR WEBSITE.**

**SEARCH FOR US UNDER "UGA PECAN BREEDING".**

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