

APPLICATION FOR RELEASE

APPLICATION FOR RELEASE OF (check one):

CULTIVAR

ASSOCIATE CULTIVAR

GERMPLASM

PARENTAL LINE

GENETIC STOCK

1. Crop: Southern highbush blueberry (*Vaccinium sp.*)
  
2. Experimental no. or name: TH-819
  
3. Pedigree and history: TH-819 was first identified as Advanced Seedling 01-28 in 2001 at the Georgia Experiment Station in Griffin, Ga, originating from a cross of 'Star' X 'Bladen' made by Dr. Scott NeSmith in 1998. Star is an early season variety from Florida (USPP 10,675) and is grown throughout the Southeast. 'Bladen' is an older North Carolina release, with only limited acreage in production. TH-819 was declared a selection in 2003 and was propagated for additional testing. It was established at the UGA Blueberry Research Farm in Alapaha, Ga. and at a grower test site in Ware County as multiple plants in 2004. An additional grower test site was established in 2007 in Bacon County.
  
4. Description of plant material: TH-819 is a southern highbush (mostly *Vaccinium corymbosum*), being released for commercial usage. The selection is very early ripening, ripening before the early varieties Rebel and Star in south Georgia. TH-819 has medium to large berries with good flavor as compared to standards at south Georgia test sites in the past 6 years (Tables 1 thru 3). No notable disease or other pest problems have been observed for TH-819 that are not common for other varieties. However, the new variety does flower very early (similar to 'Emerald') which can be problematic at times. Therefore, it would be expected that TH-819 would be grown with frost protection measures for more reliable production. The selection is estimated to have a chilling requirement of 400 hours or less below 45 F (based on comparison of flowering dates with those of known standard cultivars). More detailed information on TH-819 follows.
  
5. Need for and potential users of plant material: Southern highbush blueberries continue to gain a significant share of the production of commercial blueberries in Georgia. One of the major interests in the species is early ripening berries, especially around the first of May. The variety 'Star' (a 1995 Univ. of Florida release) has dominated the market window due to its reliability and firm, early ripening flavorful berry. In 2006, UGA released 'Rebel' (USPP 18,138) as a variety to be even earlier than Star. 'Rebel' has rapidly become very popular among growers in the Southeast and has generated considerable interest in California and several international territories. In fact, in 2010 'Rebel' generated some of the most significant royalty income for blueberry

## APPLICATION FOR RELEASE

varieties, with nearly 200,000 plants sold in a single year. One of the major interests in 'Rebel' is its early ripening time (around the last few days in April and the first week of May in south Georgia). Table 4 lists blueberry prices for 2011 in the Southeastern U.S., and it is apparent that the earlier berries ripen the higher the price received. Thus, additional early ripening southern highbush varieties are desired by Georgia growers and TH-819 is proposed for release based on this need.

6. Justification for release: As indicated previously (Tables 1 thru 3), an outstanding feature of TH-819 is early ripening fruit. Across all tests in south Georgia locations, TH-819 averaged ripening 7 to 12 days earlier than 'Star' and 'Rebel', and it ripened more than 2 weeks earlier than 'Emerald'. Table 5 gives a more detailed view of ripening times and how they can vary from year to year for the different varieties using the Alapaha Research Farm location as an example. In each year the estimated ripening time for TH-819 was earlier than any of the other three commercial varieties. The data are estimates of 50% ripening time, and typically berries will begin ripening (10% ripe fruit) 7 to 10 days earlier than this. Thus, with TH-819 there was harvestable fruit ready on plants in some years by April 15, which is very early ripening for south Georgia.

The early ripening berries of TH-819 are coupled with an early flowering time as well. Data from the 3 trials indicated that the fruit development period (FDP) of TH-819, 'Rebel', and 'Star' are similar and that TH-819 simply starts flowering earlier. This early flowering can result in freeze/frost issues during many years in south Georgia, therefore, it is recommended that TH-819 be produced with freeze protection measures (i.e., overhead sprinkler frost protection) when possible. Early flowering has caused problems with growers and the variety 'Emerald' for years. Growers particularly become frustrated that although 'Emerald' flowers early, it does not ripen early, thus there is little "reward" for the "risk" of producing the variety. However, the early ripening of TH-819 should offer growers a chance for higher market prices, thus, a "reward" for the "risk".

While the major attraction of TH-819 may be the early ripening fruit, the variety does have additional favorable attributes. In most evaluations, TH-819 tended to have the best flavor as compared to the other varieties, especially compared to 'Rebel'. The bland flavor of 'Rebel' has been one of the biggest complaints against the variety, and TH-819 offers an improvement over that. TH-819 fruit size was similar to 'Star' in most years, although, 'Rebel' and 'Emerald' berry size was most often larger. TH-819 has a good fruit scar and firmness, and has good plant vigor.

While actual yields were not obtained in the trials due to labor requirements and bird damage on the early ripening fruit, yield estimates were made for each year giving consideration to cropping score, plant vigor/size, plant age, berry size, and location. TH-819 yield estimates were typically as good as that for 'Star' and 'Emerald', but usually somewhat less than the high yielding 'Rebel'. Note that the Alapaha site was not frost protected in any year, while the Ware County site did have some frost

## APPLICATION FOR RELEASE

protection and the Bacon County site was frost protected each year. Thus, TH-819 has demonstrated reasonable yield potential, especially for an early ripening.

7. Participating scientists: Scientists participating in the development of this blueberry cultivar include D. Scott NeSmith, UGA.

8. Location(s) at which plant material was developed: TH-819 was developed at both the Georgia Station and the Coastal Plain Experiment Station.

9. Recommended form of intellectual property protection and royalty: TH-819 should be patented and royalty should be charged on a per plant or production basis.

**Cultivar and associate cultivar applications only provide the following information:**

10. Method of propagation: Propagation of TH-819 has been rather easily accomplished from softwood cuttings.

11. Amount of breeder seed stocks available (if applicable): NA

12. Amount of foundation seed stocks available if applicable: NA

13. Amount of cutting or bud material available for vegetatively propagated material for nursery distribution (if applicable): There is limited plant material available in the field at Alapaha and Griffin for some cuttings. We have propagated 2500 to 3000 cuttings in 2011 to have prepared for distribution to licensees in Feb. 2012.

14. Describe any unusual difficulty anticipated in the production of any class of seed stocks:

15. Suggest up to three names for the cultivar, if appropriate: **Prelude** is the preferred name. Other possibilities: **Maverick**

16. Name approved by plant cultivar and germplasm release committee:

APPLICATION FOR RELEASE

**Table 1.** 5-year average ratings of some fruit and plant characteristics of TH-819 and southern highbush standard cultivars Emerald, Rebel, and Star (2006-2011) in field test plots at Alapaha, Ga. Rating scales are based on a 1 to 10 score, with 1 being the least desirable and 10 being the most desirable. These plants were established in 2004. A severe freeze in 2007 limited evaluations for that year. This was not a freeze protected site.

Berry and plant attributes <sup>Y/</sup>	Cultivar			
	TH-819	Emerald	Rebel	Star
Berry size	7.5 ± 0.2	8.6 ± 0.2	7.5 ± 0.2	7.7 ± 0.2
Berry scar	7.8 ± 0.2	7.8 ± 0.3	7.8 ± 0.2	7.5 ± 0.3
Berry color	7.7 ± 0.2	7.8 ± 0.3	7.2 ± 0.2	7.2 ± 0.1
Berry firmness	7.5 ± 0.2	7.3 ± 0.2	7.6 ± 0.2	7.2 ± 0.2
Berry flavor	8.1 ± 0.3	7.0 ± 0.2	6.9 ± 0.1	7.2 ± 0.2
Cropping	6.1 ± 1.4	5.1 ± 1.1	7.5 ± 1.7	6.0 ± 1.6
Plant vigor	8.7 ± 0.5	7.0 ± 0.3	7.7 ± 0.4	8.6 ± 0.4
Date of 50% flowering	Feb. 21 ± 3.9	Feb. 18 ± 5.6	Mar. 3 ± 3.3	Mar. 7 ± 3.1
Date of 50% ripening	April 24 ± 2.5	May 9 ± 2.6	May 3 ± 2.4	May 6 ± 2.4
Fruit development period (days)	62 ± 2.0	80 ± 4.0	62 ± 2.0	62 ± 1.0
Yield estimate (lbs/plant) <sup>Z/</sup>	5.6 ± 1.4	5.4 ± 1.5	7.2 ± 1.7	6.0 ± 1.7

<sup>Y/</sup> Values are means ± the standard error with n=5.

<sup>Z/</sup> Yield estimates were made for each year giving consideration to age of plant, cropping, plant vigor/size, berry size, and location.

APPLICATION FOR RELEASE

**Table 2.** 5-year average ratings of some fruit and plant characteristics of TH-819 and southern highbush standard cultivars Emerald, Rebel, and Star (2005-2010) in field test plots at a grower test site in Ware County, Ga. Rating scales are based on a 1 to 10 score, with 1 being the least desirable and 10 being the most desirable. These plants were established in 2004. A severe freeze in 2008 limited evaluations for that year. This was a freeze protected site via overhead sprinklers.

Berry and plant attributes <sup>Y/</sup>	Cultivar			
	TH-819	Emerald	Rebel	Star
Berry size	7.6 ± 0.2	9.0 ± 0.3	8.3 ± 0.3	7.6 ± 0.2
Berry scar	7.3 ± 0.2	8.0 ± 0.2	8.4 ± 0.2	7.6 ± 0.3
Berry color	7.4 ± 0.2	8.0 ± 0.1	7.8 ± 0.1	7.2 ± 0.1
Berry firmness	7.5 ± 0.2	7.9 ± 0.1	8.1 ± 0.1	7.6 ± 0.3
Berry flavor	7.5 ± 0.3	7.2 ± 0.3	6.9 ± 0.1	7.4 ± 0.2
Cropping	5.3 ± 1.3	4.9 ± 1.3	6.7 ± 1.1	6.3 ± 0.6
Plant vigor <sup>Z/</sup>	7.7 ± 0.1	8.9 ± 0.1	9.4 ± 0.3	8.1 ± 0.5
Date of 50% flowering	Feb. 15 ± 7.5	Feb. 8 ± 7.2	Feb. 26 ± 4.6	Mar. 1 ± 5.1
Date of 50% ripening	April 26 ± 4.0	May 8 ± 3.5	May 2 ± 3.6	May 7 ± 4.1
Fruit development period (days)	72 ± 3.9	89 ± 4.0	66 ± 2.2	67 ± 2.7
Yield estimate (lbs/plant) <sup>Z/</sup>	5.6 ± 1.0	5.8 ± 1.3	7.8 ± 1.4	7.6 ± 1.2

<sup>Y/</sup> Values are means ± the standard error with n=5.

<sup>Z/</sup> Yield estimates were made for each year giving consideration to age of plant, cropping, plant vigor/size, berry size, and location.

APPLICATION FOR RELEASE

**Table 3.** 3-year average ratings of some fruit and plant characteristics of TH-819 and southern highbush standard cultivars Emerald, Rebel, and Star (2009-2011) in field test plots at a grower test site in Bacon County, Ga. Rating scales are based on a 1 to 10 score, with 1 being the least desirable and 10 being the most desirable. These plants were established in 2007. This was a freeze protected site via overhead sprinklers.

Berry and plant attributes <sup>YI</sup>	Cultivar			
	TH-819	Emerald	Rebel	Star
Berry size	7.5 ± 0.1	8.7 ± 0.3	8.2 ± 0.2	7.8 ± 0.2
Berry scar	7.3 ± 0.1	7.2 ± 0.2	8.0 ± 0.1	7.2 ± 0.2
Berry color	7.5 ± 0.1	7.8 ± 0.6	7.4 ± 0.3	7.2 ± 0.2
Berry firmness	7.3 ± 0.1	7.5 ± 0.3	7.9 ± 0.3	7.5 ± 0.3
Berry flavor	7.7 ± 0.2	7.1 ± 0.4	6.8 ± 0.1	7.0 ± 0.1
Cropping	6.5 ± 0.7	6.3 ± 0.8	7.3 ± 0.4	6.0 ± 0.5
Plant vigor <sup>ZI</sup>	9.3 ± 0.3	8.8 ± 0.6	9.6 ± 0.3	8.8 ± 0.2
Date of 50% flowering	Mar. 7 ± 2.5	Mar. 8 ± 3.0	Mar. 12 ± 3.8	Mar. 16 ± 3.7
Date of 50% ripening	April 29 ± 3.0	May 14 ± 2.2	May 7 ± 3.6	May 10 ± 2.6
Fruit development period (days)	56 ± 2.0	68 ± 2.4	59 ± 1.8	57 ± 2.0
Yield estimate (lbs/plant) <sup>ZI</sup>	6.7 ± 1.8	6.0 ± 1.7	8.3 ± 2.1	6.3 ± 1.6

<sup>YI</sup> Values are means ± the standard error with n=3.

<sup>ZI</sup> Yield estimates were made for each year giving consideration to age of plant, cropping, plant vigor/size, berry size, and location.

APPLICATION FOR RELEASE

<b>Blueberry Daily Prices for 2011</b>		
<i>Low and high price (\$) per flat of 12 - 6 ounce containers (4.5 lbs of fruit)</i>		
<b>Date</b>	<b>Low Price</b>	<b>High Price</b>
11-Apr	30	35
12-Apr	30	35
13-Apr	30	35
14-Apr	28	35
15-Apr	28	31
18-Apr	24	29
19-Apr	24	29
20-Apr	24	28
21-Apr	20	25
22-Apr	20	23
25-Apr	17	21
26-Apr	17	21
27-Apr	14	17
28-Apr	14	17
29-Apr	12	17
2-May	12	15
3-May	12	15
4-May	12	15
5-May	12	15
6-May	12	15
9-May	12	15
10-May	12	15
11-May	12	15

**Table 4.** Blueberry daily price example from 2011.

APPLICATION FOR RELEASE

**Table 5.** Date of 50% ripening time for TH-819 and three standard southern highbush blueberry varieties at the Alapaha Research Farm during 2006 through 2011. Note that a severe freeze in 2007 resulted in lost evaluations during that year.

Year	Cultivar			
	TH-819	Emerald	Rebel	Star
	Date of 50% ripening			
2006	April 22	May 3	May 1	May 3
2008	April 19	May 8	April 29	May 6
2009	April 23	May 8	April 28	May 1
2010	May 4	May 19	May 11	May 15
2011	April 24	May 9	May 6	May 7



## APPLICATION FOR RELEASE

### Appendix

#### Blueberry Traits and Rating Scale

D. Scott NeSmith

Many of the traits evaluated in the blueberry breeding program are qualitative and/or subjective, and we use a 1 to 10 scale for our ratings. In this system, typically a value of 1 is poor and least desirable, and a value of 10 is excellent and most desirable. A value of 6-7 on this scale is generally considered to be the minimum level for "commercial acceptability". An exception is cropping score, which can be less than 6 in some years depending on weather, pollination, etc. For advanced selections, nearly all traits would be at the minimum value (6-7), therefore, there is not a wide range in values among entries in these final trials (i.e., those selections with values < 6 didn't make it this far). Ratings are based on averaged or integrated values across several plants and berries, not just single berries. More specific information for the different traits is listed below.

**Berry size** – For berry size large berries are typically desirable. There are occasions that small berries may be desired, but in general we select for large fruit. Our berry size scale does relate to a quantity in many regards. A value of 6 is given to berries that are 13 to 14 mm in diameter, a value of 7 is 15 to 16 mm, a value of 8 is 17 to 18 mm, a 9 is 20 to 21 mm, and a value of 10 is greater than 21 mm.

**Berry scar** – Berry scar refers to the region where the fruit is detached from the stem. The most desirable form of this trait is a very small scar, that is completely dry. A value less than 6 is unacceptable commercially because the tearing and leakage would cause fruit storage problems. A value of 6 would be a scar with perhaps slight tearing on an occasional berry. A value of 7 would be a large scar, but would tend to be dry. The rest of the scale (8 to 10) basically accounts for a smaller and smaller scar.

**Berry color** – The "blue color" of blueberries actually is caused by the waxy bloom covering the fruit. Nearly all blueberries are midnight blue to black if this wax is removed. So, in essence the color scale we use is an indicator of waxy bloom on the fruit. The most desirable form of this trait is a high wax bloom that gives a sky blue appearance. In our scale, a value less than 6 is considered too dark (not waxy enough) for commercial acceptance. Going from 6 to 10 is basically increasing in intensity of light blue color.

**Berry firmness** – Firmness of blueberries is important for harvesting, handling, and storage of the fruit. If a berry is too soft, it will bruise during these processes and become unusable. Our fruit firmness rating is based on "feel" when rolling berries between the fingers, and somewhat on texture "crispness" when biting into the fruit. Rating values < 6 are considered too soft to be commercially viable. Going from a value of 6 to 10 is increasing in firmness. Very few berries are ever rated at 10 on this

## APPLICATION FOR RELEASE

scale. Typically fruit that exceed a value of 8.0 to 9.0 could likely be machine harvested for the fresh market.

**Berry flavor** – Blueberry flavor is a blend of volatiles, acid and sugars that give various combinations of flavor. If berries are too acid, they are bitter and are not appealing to consumers. If both acidity and sugars are too low, berries can have too bland of a flavor and this is not appealing to consumers either. A flavor rating < 6 is not considered commercially suitable. Going from a rating of 6 to 10, flavor is becoming increasingly sweet, aromatic, and more pronounced.

**Cropping** – Cropping score is an integrated value of the “percent” crop a plant is carrying. It is related to yield somewhat, but is actually more a measure of fruit set. Thus, overall size of the canopy is not accounted for. You could have a small plant canopy with high fruit set, but overall yield would be low due to its size. Also, large berry size can increase yield if two selections have a similar crop load, but one has larger berry size. The 1 to 10 scale used is basically a percentage of crop that is set (i.e., 1 = 10%, 2=20%, etc.). A cropping score of 9 to 10 can be overcropped resulting in small, slow ripening fruit.

**Plant Vigor** – Rating of plant vigor integrates the overall robustness and durability of the plant itself (wood and vegetation). It does not reflect berry quality, although poor vigor plants can have very small berries, but not always. This is a 1 to 10 visual scale, with 1 being near death, and 10 being extremely healthy and vigorous.

**Yield Estimates** – Actual blueberry yields are often difficult to obtain due to the high labor input for hand harvesting over several weeks. Also, a significant portion of early ripening fruit can be consumed by birds which cannot be easily controlled. In order to estimate yields when they cannot be obtained otherwise, an integrated assessment using cropping (fruit set), berry size, plant vigor/size, plant age, and location is made. Yield can be listed as low, medium, high and very high, which differs among species. As a general guide for southern highbush, low yields would be 1-3 lbs/plant; medium yields 3-6 lbs/plant; high yields 6-10 lbs/plant; and very high yields 10-15 lbs/plant. For rabbiteye selections, low yields would be 1-5 lbs/plant; medium yields 5-10 lbs/plant; high yields 10-16 lbs/plant; and very high yields 16-23 lbs/plant.

APPLICATION FOR RELEASE

(Please keep this as a separate page)

Application for the release of (insert experimental name or number and crop)

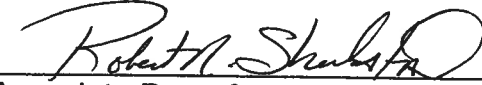
Recommended:

A.  7/15/11  
Originating Scientist Date

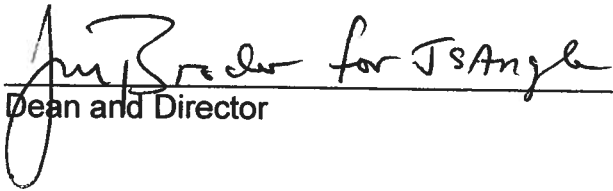
B.  7/20/11  
Department Head Date

C. \_\_\_\_\_  
For Griffin and Tifton, Assistant Dean Date

D. \_\_\_\_\_  
Chair, GAES PCGRC Date

E.  11/3/11  
Associate Dean for Research Date

Approved:

F.  11-8-11  
Dean and Director Date

**Robert N Shulstad**

---

**From:** Robert N Shulstad  
**Sent:** Friday, October 28, 2011 2:18 PM  
**To:** Joseph Bouton  
**Cc:** Associate Dean for Research; J. Scott Angle; 'Doug Bailey'; D SCOTT Nesmith  
**Subject:** Release of TH-819 Blueberry

Joe

I appreciate your previous emails explaining the recommendations of the Cultivar Release Committee for TH-819 Blueberry.

I also appreciate the Committee wanting to have yield data for a crop that is sold by the pound. We agree with that logic.

However we also need to meet the needs of the industry in as timely a manner as possible.

Dean Angle and I have sought information from Dr. NeSmith and Dr. Bailey regarding the interest of growers in TH-819, and I have also spoken directly with a grower and industry leader and have determined that there is significant support among blueberry growers who have had test sites on their farms and who have observed the cultivar at other locations to warrant release of TH-819.

Please send me the Application for Release submitted to the Committee that contains the original signatures.

Both Dean Angle and I appreciate and respect the efforts of the Cultivar Release Committee, however in this case we have chosen to approve release of TH-819 Blueberry without the committee's recommendation for that release.

Thank you

Bob



---

# The University of Georgia

---

College of Agricultural and Environmental Sciences  
*Department of Horticulture*

## MEMO

**Date:** 28 October 2011  
**To:** Bob Shulstad  
**From:** D. Bailey *Doug Bailey*  
**Re:** Release of TH-819 Blueberry

I support Dr. NeSmith's request for CAES approval of TH-819 blueberry. Although the CAES Plant Cultivar Release Committee have recommended against release, I agree with Dr. NeSmith in that the new variety does have desirable attributes, including well-documented (5 years data) early ripening. There is intense interest from growers in this cultivar, and CAES approval of this release would be advantageous. I have attached the revised cultivar release application (that includes yield estimate data) as well and Dr. NeSmith's request for CAES approval. Please let me know if additional information is required for the approval process.



# The University of Georgia

Department of Horticulture

College of Agricultural and Environmental Sciences  
Georgia Agricultural Experiment Stations

Georgia Experiment Station  
1109 Experiment Street  
Griffin, Georgia 30223-1797

October 27, 2011

Dr. Doug Bailey  
Department of Horticulture  
College of Agricultural and Environmental Sciences  
The University of Georgia  
Athens, GA 30602

Dear Doug;

Pertaining to my application for the release of a new blueberry variety (TH-819), I would like to offer the following final petition for release. As you are aware, the CAES Plant Cultivar Release Committee declined the application due to the absence of yield data, although I was completely upfront as to why I did not provide actual data (see application). This was a complete surprise to me, as I just released Southern Splendour in 2009 without yield data (for similar reasons), and it was approved by the Committee. Also, the fact is my "claim" for the new variety was not about yield anyway, it was a claim of early ripening which was substantiated by 5 years or more of data from multiple South Georgia locations. Incidentally, one of my test sites was at the farm of Steve Mullis, current President of the Georgia Blueberry Grower's Association, and Steve wholeheartedly supports release of the variety due to his own observations and experiences, and in fact he wants to license for his operation immediately. Please realize although actual yield harvest was not obtained, my observations and ratings have indicated that yield for this new variety is more than adequate. I can assure you that Steve Mullis (and other growers as well) would not be interested in the new release if they did not see value and need. Therefore, I am asking that CAES Administration consider approval of the variety, although they do not have this recommendation from the CAES Release Committee. I think the variety will have a niche very quickly, and would like to see it move forward.

As a final thought, I polled several Small Fruit Breeder colleagues (6 to 8) around the US, and more than half said they do not typically collect actual yield data for releases. The remaining breeders do collect at least some actual yield data as they can.

If anything further is required, please advise. Thanks for your help.

Sincerely,

D. Scott NeSmith  
Professor, Horticulture

August 23, 2011

To: CAES Cultivar Release Committee  
From: Scott NeSmith  
Subject: Revision of Release Application for TH-819 Blueberry

In going through the comments of the Committee received from Dr. Bouton concerning the release of TH-819, please note the following responses:

1. We take yields on a few selections each year, but are very limited with those that we can obtain due to the high labor required for multiple hand harvests. We often have set selections we work with for yields for a 3-year period, and not all selections that are of interest are in that mix. TH-819 was never part of the selections we harvested for yields in the past few years as it ripens early and often had bird damage (i.e., they eat the berries). Thus we made cropping estimates (our standard measure) and other evaluations. But, we did not obtain yields. However, as suggested by the Committee, we can make a yield estimate based on experience, cropping, plant age, berry size, plants health and location. In fact we have done this off and on over the years. For your reference I added a description of the yield estimates to the appendix. In the document you can now find in the tabular data the addition of yield estimates. Keep in mind that we did not claim TH-819 as superior yielding, only early. But, as you will see, TH-819 yields are acceptable, being medium to high overall for Southern Highbush. Hopefully this addresses you concerns.
2. As for ripening data in Table 5, apparently the point was missed. I added the stats for ripening and flowering dates to Tables 1 thru 3, so you can see the mean and S.E. there. Table 5 is simply a look at some "raw" data to let the Committee see how ripening dates vary for various selections and cultivars from year to year. I just included one example from the Alapaha site. The idea was to simply let you view something besides the means and the associated statistic. It is easier in my opinion to realize the "earliness" value from the yearly data, which is an integrated estimate over plants. So, I can leave Table 5 out altogether if that will make things simpler. Again the idea was just to give the Committee a better picture of ripening data.