

**ATTACHMENT I**

**APPLICATION FOR APPROVAL OF    CULTIVARS   X   ASSOCIATE CULTIVARS**

**(Please check appropriate type of application)**

- 1. Crop: Wheat**
- 2. Experimental no. or name: GA 951231-4E26**
- 3. Pedigree and history: GA 951231-4E26 is GA 881130 / Coker 9134. The final cross was made in the spring of 1995. Individual spike selections were made in the F2 to F5 generations at Plains, GA. The pedigree method of breeding was used to advance the segregating populations. In 2001, a headrow was harvested for preliminary evaluations. Agronomic evaluations were conducted from 2005 to 2007 in the Small Grain State Performance Trials for Georgia. It was evaluated in 2006 in the Uniform Southern Wheat Nursery.**
- 4. Description: GA 951231-4E26 is an medium maturing, white chaffed, short height line. Its maturity is similar to AGS 2000 with an average of 2.0 days later in Georgia. It is resistant to current biotypes of Hessian fly in Georgia, especially to biotype L. It also has good resistant to races of leaf rust and stripe rust in Georgia.**
- 5. Station(s) where developed: Griffin Campus**
- 6. Participating scientist(s): Jerry Johnson and G. David Buntin**
- 7. In what respect is the new cultivar superior to the cultivar now in use? or reasons for proposing release as an associate cultivar.**

**GA 951231-4E26 will be released as an Associate Cultivar due to its increase susceptibility to lodging (Tables 3 and 4) and lower grain yield during two year average, 2005-2006 (Table 4) as compared to GA 951231-4E25.**

**It was higher in grain yield than GA 951231-4E25 in northern AL, MS, and LA (Table 7).**

**It has better leaf rust and stripe rust resistance than AGS 2000 (Tables 3 and 8). It also has resistance to biotype L of Hessian fly (Table 9).**

**In the Uniform Southern Trial during 2005, it ranked number 3 out of 45 entries for grain yield over 21 locations and yielded equal or better than the checks (AGS 2000 and PIO 26R61) (Table 6).**

- 8. Method of propagation: Seed**
- 9. Amount of breeder seed stocks available (if applicable): 20 bu.**

**10. Amount of foundation seed stocks available (if applicable): 1000 bushel in summer of 2007.**

**11. Amount of cutting or bud material available for vegetative propagated material for nursery distribution (if applicable):**

**12. Is there likely to be unusual difficulty encountered in the production of any class of seed stocks? Explain. No**

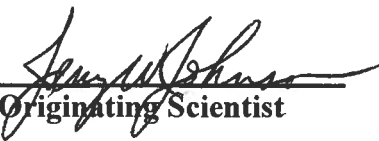
**13. Three suggested names for the cultivar: GA 951231-4E26**

**14. Name approved by plant cultivar and germplasm release committee: GA 951231-4E26**

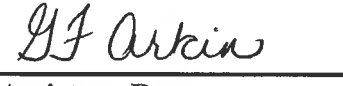
**15. Form of intellectual property protection: Plant Variety Protection**

**16. Is a royalty assessment recommended:  Yes  No**

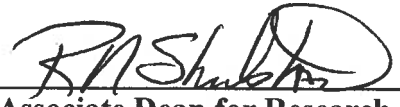
**RECOMMENDED BY:**

A.   
Originating Scientist

B.   
Department Head

C. *D. Beaver for*  
  
Assistant Dean

D.   
Chairperson, GAES Plant Cultivar  
and Germplasm Release Committee

E.   
Associate Dean for Research

**APPROVED:**

  
Dean and Director  
College of Agricultural & Environmental Sciences

**Table 1. Average Performance of GA 951231-4E26 and Checks in Elite Nursery Multilocations\*, 2004.**

| Entry          | Yield<br>bu/A | Test Wt.<br>lbs/bu | Head Date<br>Julian | Height<br>inches |
|----------------|---------------|--------------------|---------------------|------------------|
| GA 951231-4E25 | 89a           | 59a                | 95a                 | 33b              |
| GA 951231-4E26 | 88a           | 59a                | 95a                 | 33b              |
| AGS 2000       | 88a           | 60a                | 94a                 | 35ab             |
| PIO 26R61      | 81b           | 60a                | 96a                 | 37a              |

\* Plains, Griffin, Calhoun, GA; Quincy, FL; Belle Mina, AL; Stoneville, MS

**Table 2. Average Performance of GA 951231-4E26 and Checks in Multi-State\* Performance Trials (GAWN), 2005.**

| Entry          | Yield<br>bu/A | Test Wt.<br>lbs/bu | Head Date<br>Julian | Height<br>inches |
|----------------|---------------|--------------------|---------------------|------------------|
| GA 951231-4E25 | 99a           | 60a                | 104ab               | 36a              |
| GA 951231-4E26 | 103a          | 60a                | 104ab               | 36a              |
| AGS 2000       | 79c           | 60a                | 102b                | 37a              |
| USG 3209       | 86b           | 59a                | 105a                | 35b              |

\*Florida, Georgia, North Carolina, Louisiana, Virginia

**Table 3. Average Agronomic Traits of GA 951231-4E26 and Checks in Multi-State\* Performance Trials (GAWN), 2005.**

| Entry          | Lodging<br>0-9 | P. Mildew<br>0-9 | Leaf Rust<br>0-9 | Stripe Rust<br>0-9 |
|----------------|----------------|------------------|------------------|--------------------|
| GA 951231-4E25 | 1.6a           | 2.9a             | 0.3b             | 0.3c               |
| GA 951231-4E26 | 3.2b           | 2.9a             | 0.8b             | 0.3c               |
| AGS 2000       | 1.4a           | 3.1a             | 1.8a             | 6.8a               |
| USG 3209       | 0.9a           | 2.3a             | 2.5a             | 2.1b               |

\*Florida, Georgia, North Carolina, Louisiana, Virginia

**Table 4. Average Performance of GA 951231-4E26 and Checks in Georgia's State Performance Trials in Georgia, 2-Yr Ave, 2005-2006.**

| Entry          | Yield<br>bu/A | Test Wt.<br>lbs/bu | Head Date<br>Julian | Height<br>inches | Lodging<br>% |
|----------------|---------------|--------------------|---------------------|------------------|--------------|
| GA 951231-4E25 | 82.7a         | 58a                | 96a                 | 37b              | 19b          |
| GA 951231-4E26 | 78.7b         | 58a                | 96b                 | 38b              | 42a          |
| AGS 2000       | 77.1b         | 59a                | 94a                 | 41a              | 15b          |
| PIO 26R61      | 78.9b         | 59a                | 96a                 | 41a              | 4b           |

**Table 5. Average Performance of GA 951231-4E26 and Checks in Georgia's State Performance Trials in Georgia, 2-Yr Ave, 2006-2007, South GA.**

| Entry          | Yield<br>bu/A | Test Wt.<br>lbs/bu | Head Date<br>Julian | Height<br>inches |
|----------------|---------------|--------------------|---------------------|------------------|
| GA 951231-4E25 | 84.7a         | 61a                | 88a                 | 37a              |
| GA 951231-4E26 | 81.2a         | 61a                | 88a                 | 36a              |
| AGS 2000       | 76.6b         | 60a                | 88a                 | 38a              |
| PIO 26R61      | 78.1b         | 61a                | 89a                 | 39a              |

\* Plains, Tifton, Midville

**Table 6. Average Performance of GA 95121-4E26 and Checks in Uniform Southern Soft Red Winter Nursery, 2006.**

| Entry          | Yield<br>bu/A | Test Wt.<br>lbs/bu | Head Date<br>Julian | Height<br>inches |
|----------------|---------------|--------------------|---------------------|------------------|
| GA 951231-4E25 | 84.0a         | 58a                | 111b                | 32b              |
| GA 951231-4E26 | 84.4a         | 58a                | 112b                | 32b              |
| AGS 2000       | 83.8a         | 59a                | 113a                | 37a              |
| PIO 26R61      | 76.3b         | 59a                | 114a                | 37a              |

21 locations in the Southern Region

**Table 7. Average Grain Yield Performance (Bu/A) of GA 95121-4E26 and Checks in Uniform Southern Soft Red Winter Nursery, 2006.**

| Entry          | Northern |      |     |
|----------------|----------|------|-----|
|                | AL       | LA   | MS  |
| GA 951231-4E25 | 64b      | 67b  | 78b |
| GA 951231-4E26 | 72a      | 78a  | 87a |
| AGS 2000       | 72a      | 71ab | 85a |
| PIO 26R61      | 60b      | 62b  | 85a |

**Table 8. Average Agronomic Traits of GA 951231-4E26 and Checks in Uniform Southern Soft Red Winter Nursery, 2006.**

| Entry          | Leaf Rust | Stripe Rust | P. Mildew |
|----------------|-----------|-------------|-----------|
|                | 0-9       | 0-9         | 0-9       |
| GA 951231-4E25 | 0.5a      | 1.2b        | 2.6a      |
| GA 951231-4E26 | 0.6a      | 1.9b        | 2.2a      |
| AGS 2000       | 1.4a      | 4.5a        | 2.6a      |
| PIO 26R61      | 2.0a      | 0.4b        | 1.6a      |

21 locations in the Southern Region

**Table 9. Evaluation of lines to biotypes of Hessian Fly, USDA-ARS Lab, Purdue University, 2006.**

| <b>Entry</b>          | <b>Biotype B<br/>R:S</b> | <b>Biotype D<br/>R:S</b> | <b>Biotype E<br/>R:S</b> | <b>Biotype L<br/>R:S</b> | <b>Field<br/>Rating*<br/>%</b> |
|-----------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------------|
| <b>GA 951231-4E25</b> | <b>16-0</b>              | <b>15-0</b>              | <b>15-0</b>              | <b>12-0</b>              | <b>0a</b>                      |
| <b>GA 951231-4E26</b> | <b>16-0</b>              | <b>16-0</b>              | <b>15-0</b>              | <b>18-0</b>              | <b>0a</b>                      |
| <b>AGS 2000</b>       | <b>1-14</b>              | <b>0-16</b>              | <b>2-13</b>              | <b>0-18</b>              | <b>5a</b>                      |
| <b>PIO 26R61</b>      | <b>0-14</b>              | <b>0-14</b>              | <b>12-0</b>              | <b>0-14</b>              | <b>2a</b>                      |

**\*Griffin, GA**