2002 End of Year Report

Evaluating Potential Rice Varieties From University And Industry Breeding Programs

Wells

XL 8

XL 7

CL 141

TX8181

Jefferson

Francis

CL 161

XP 710

Cocodrie

TX9092

Saber

CL 121

Cypress

Submitted to:
Texas Rice Research Foundation
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EXECUTIVE SUMMARY

We included 5 new or potential varieties (CL161, Francis, TX8181, TX9092 and hybrid XP710) this year making a total of 14 varieties evaluated on clay soil at Beaumont and 13 varieties on sandy soil at Eagle Lake. The new varieties will be highlighted by shading where they appear in the executive summary and are described for each of the five research objectives. See Tables 5A and 5B on pages 28 and 29 for a two page summary of all data.

OBJECTIVE ONE

Measure each variety's main and ratoon crop yield response to two plant populations and two nitrogen rates on clay and sandy soils.

1) Variety effects on seed/lb, seeding rates, and seedlings/ft^2

When fine-tuning planting rates it is important to know the number of seed/lb for each variety because that number can vary as much as 25% among varieties (Jefferson with 16,000 and Dixiebelle with 20,000 seed/lb). Therefore, varieties planted at the same seeding rate could produce a variance of 25% in seedling/ft^2 just because of the difference in number of seed/lb. Tables 1A and 1B show that the varieties/lines evaluated ranged from a low of . 16,000 seed/lb for Jefferson to a high of . 19,000 to 21,000 seed/lb for Dixiebelle, Bolivar, Cocodrie, Francis, Saber, CL161 and the hybrids (XL7, XP710 and XL8). Varieties with a medium number of seed/lb (i.e., 17,000 to 18,000) are Priscilla, Cypress, Wells and XL6. Additional information to help arrive at a desired plant population is found in Tables 1A and 1B showing seeding rates we used for targeted 12 or 24 seedlings/ft^2 and actual achieved seedlings/ft^2.

2) Variety effects on main and ratoon crop yield

Beaumont location
See Figures 1-A, 1-B and 1-C, pgs. 30-32

The highest average main crop yielder was the new experimental hybrid XP710 averaging about 10,500 lbs/A followed by Francis (. 9000 lbs/A), Cocodrie (. 8500 lbs/A), XL8 (. 8400 lbs/A), Cypress, XL7, Wells, TX8181 and Jefferson (about 8000 lbs/A), CL161 (. 7700 lbs/A), TX9092 (. 7400 lbs/A), CL141 (. 7200 lbs/A), CL121 (. 6900 lbs/A) and Saber averaging (6400 lbs/A).

The highest ratoon yielders were the three hybrids and Saber at . 3000 lbs/A or more. Most varieties had ratoon yields between 1500 and 2500 lbs/A, except for Francis which failed to produce measurable ratoon yield.

Highest total yields (11,000 to 14,000 lbs/A) were produced by hybrids. The best conventional varieties (Cocodrie, Cypress, Jefferson and TX8181) produced between 9000 and 10,500 lbs/A.

Page 8 of the executive summary gives main crop (MC), ratoon crop (RC) and total crop (TC) economic indexes or ranking which is better than yield as a variety evaluator.

EXECUTIVE SUMMARY (cont.)

Eagle Lake location
See Figures 2-A, 2-B and 2-C, pgs. 33-35

The new experimental hybrid XP710 and XL8 gave the highest main crop yield (between 8000 and 9000 lbs/A) followed by Cocodrie, TX9092, XL7, Wells, CL161 Jefferson, TX8181and Francis (between 7500 and 8000 lbs/A). With the lower MC yielders (6500 to 7000 lbs/A) being CL141, CL121 and Saber.

Most ratoon yields at Eagle Lake were less than normal (i.e., below 2500 lbs/A) possibly due to oxygen deficient soil or "straight head" related conditions. XL7 and TX9092 were the exceptions yielding approximately 3000 lb/A.

Maximum total yields were between 10,000 and 11,000 lbs/A and achieved by the 3 hybrids and TX9092.

3) Plant population and N rate effects on main crop and ratoon crop yield

Figures 1-A, 1-B, and 1-C (Beaumont) and 2-A, 2-B, and 2C (Eagle Lake) show the main and ratoon yields of each variety at the two measured plant populations (seedlings/ft^2) and two N rates shown in the figures. The desired or "targeted" seedlings/ft^2 were 12 and 24 for the conventional varieties and 9 and 18 for the hybrids as shown in Table 1-B along with the seeding rates we used to obtain the measured seedlings/ft^2.

Beaumont location

Figures 1-A, 1-B and 1-C show that under the 2002 high yield conditions at Beaumont, maximum main and ratoon crop yields were obtained with the higher N rate (180 lbs N/A for hybrids and 220 lbs N/A for the conventional varieties) even at the lower plant population (10 to 11 seedlings/ft^2 for hybrids and 12 to 17 seedlings/ft^2 for conventional varieties). This illustrates that lower than recommended plant population (9 seedlings/ft^2 for hybrids and 15 seedlings/ft^2 for conventional varieties) can produce maximum yields provided the seedlings are uniformly distributed, varieties tiller well, and field conditions do not inhibit tillering.

Eagle Lake location

Figures 2-A, 2-B and 2-C show that at Eagle Lake yields were slightly less than at Beaumont. Under these lower yield conditions and high soil N, plant populations ranging from 6 to 9 seedlings/ft^2 for hybrids and 9 to 17 seedlings/ft^2 for conventional varieties did not affect main or ratoon crop yields. Also, fertilizer N rates between 150 and 200 lbs N/A did not influence main or ratoon yield. These data illustrate that both low plant population and low N rate produced maximum yields at Eagle Lake in 2002.

EXECUTIVE SUMMARY (cont.)

4) Variety effects on grain milling

At Beaumont three varieties had main crop whole grain milling yields greater than 64%. They were Cypress (66%), TX9092 (65%) and surprisingly Jefferson with 65% whole grain milling. Other variety milling yields were Saber (63%), TX8181 (62%), Francis (61%), CL141 (61%), Wells (60%), CL121 and CL161 (59%), XL7 and XL8 (58%), Cocodrie (58%) and XP710 (49%).

Whole grain milling yields at Eagle Lake were not typical and generally lower than at Beaumont. Variety milling yields at Eagle Lake were Saber (62%), TX8181 (61%), CL161 (60%), Jefferson (60%), TX9092 and CL121 (59%), CL141 (58%), Cocodrie (55%), Francis and Wells (53%), while XL7, XL8 and XP710 milled 50, 46 and 45%, respectively.

EXECUTIVE SUMMARY (cont.)

OBJECTIVE TWO

Identify varieties with best yield and milling when planted beyond the optimum date

Beaumont location Delaying planting at Beaumont from March 27 to May 13 reduced main crop yields an average of 2690 lbs/A or 450 lbs/week (Table 2). The three hybrids yielded best (between 7800 and 6000 lbs/A) under delayed planting at Beaumont. Delayed planting eliminated ratoon cropping. Variety specific performances are shown in Table 2. This year's average delayed planting yield loss was about twice that of the past 3 years. See Table 3 for milling yields.

Eagle Lake location Yield loss due to delayed planting at Eagle Lake was less accurately determined because delayed planting yield limitations were lower than expected due to herbicide burn and lodging caused by diseases. Highest yielding varieties under delayed planting were the hybrids. See page 16 for actual yields under delayed planting at Eagle Lake.

OBJECTIVE THREE

Provide a single economic index calculated from each variety's main, ratoon and total crop yield and milling

1) Early planting variety economics:

Economic analyses of early planted yield and milling values are summarized in Table 4 which shows:

< These varieties had the highest economic index ( ) for main, ratoon and total crop yield at Beaumont:

- C Main crop = Francis (1), XP710 (2) and Cypress (3)
- C Ratoon crop = XL8 (1), XL7 (2) and Saber (3)
- C Total crop = XP710 (1), XL8 (2) and Jefferson (3)

< At Eagle Lake, the varieties producing highest economic index were these:

- C Main crop = TX9092 (1), CL161 (2) and TX8181 (3)
- C Ratoon crop = TX9092 (1), XL7 (2) and Wells (3)
- C Total crop = TX9092 (1), Wells (2) and TX8181(3)

< The 4-year economic index of each variety is shown in Table 5A.

< Table 4 shows that for most varieties at Beaumont under 2002 conditions, any net income gain came from the ratoon crop.

EXECUTIVE SUMMARY (cont.)

2) Delayed planting variety economics:

An economic analysis of main crop yield under delayed planting conditions shows that all varieties at both locations produced negative main crop income. See Appendix Table D for specific variety data at Beaumont. Eagle Lake delayed planting yields were not typical, so no economic index data are presented.

OBJECTIVE FOUR

Identify stand establishment, plant population and nitrogen management principles for each variety

1) Table 5A summarizes the characteristics of 18 varieties/lines evaluated the past four years in regard to seed size, tillering capacity, seeding rates, N rates, lodging potential and economic ranking. The economic ranking was derived from yield and milling net returns for main, ratoon and total yield. The economic ranking seems to be a better variety evaluator than separate yield or milling values. Table 5B provides additional variety characteristics in these tests.

2) Significant findings about new or potential varieti CL161, Francis, XP710, TX8081 and TX9092 : :

C CL161 is improved over CL121 and 141 in that CL161 has greater herbicide resistance for red rice control, higher MC yield potential and much greater tillering ability (possibly better than Cocodrie and Cypress). CL161 like Cypress and Cocodrie matures at least a week later than CL141 and 10 days later than CL121. Based on one year's results, CL161's main crop yields were competitive with conventional semidwarf; its whole grain milling ranged from 50 to 60%, and plant height ranged from 38 to 39 inches. CL161's weakest characteristic was its ratoon yield.

Francis is reported to have very high main crop yield potential in Arkansas. Our one year's results showed its main crop yielded a little over 9000 lbs/A (lower than XP710 but higher than Cocodrie) at Beaumont but Francis ranked 8th out of 13 varieties in main crop yield at Eagle Lake. Milling yields were inconsistent ranging from 61 to 53% whole grain. Francis' ratoon crop yields were very weak. These one year results indicate high main crop yields at Beaumont suggesting Francis may be a good variety choice for non-ratoon crop producers on clay soils.

C The new hybrids XL7, XP710 and XL8 continue to improve in yield and milling over the original XL6. They also provide a range in main crop maturity (i.e., at Beaumont in 2002 the days from emergence to maturity when planted early was 107, 114 and 121 days for XL7, XL8 and XP710, respectively). XP710 was the top main crop yielder at Beaumont where yield potential was highest. Even with its lower than average milling XP710 still produced the second highest MC economic index at Beaumont. The hybrids ratooned especially well at Beaumont achieving ratoon economic indexes (based on yield and milling) of 1, 4 and 2 for XL8, XP710 and XL7, respectively. Whole grain milling yields ranging from upper 40's to upper 50's remain the only weak point of the hybrids. High yields and disease resistance tend to compensate for milling.

EXECUTIVE SUMMARY (cont.)

- The first year of tests with TX8181 and TX9092 showed very strong main and ratoon crop advantages over other varieties at Eagle Lake where 2002 yields were lower than normal. Their economic indexes for both main and ratoon crop were at or near the top ranging from 1 to 5 for the 13 varieties evaluated at Eagle Lake where yield potential was lower. At Beaumont, TX8181 and TX9092 ranked near the middle of the 14 varieties evaluated. These first year data indicate high potential, but inconsistent yields.

OBJECTIVE FIVE

Collect variety development data others can use for developing DD-50 values for predicting critical growth stages

1) Figures 3-A and 3-B show days from emergence to PD heading and maturity for late March and mid-May planting. Delaying planting from the last week in March to mid-May can reduce the days from emergence to harvest up to 16 days depending on variety and location. Delayed planting had more effect on reducing days to maturity than on reducing the number of days from emergence to PD or heading. The effects were variety and location dependent.

Thanks

The researchers thank TRRF for funding this research.

RESEARCH PRESENTATION

The primary research objective was to evaluate U.S. rice varieties from university and private rice breeding programs for main and ratoon crop potential in Texas while developing nitrogen and plant population management principles. This primary objective was divided into five specific research objectives. Each of the five specific objectives will be presented in terms of methods and results.

I. OBJECTIVE ONE

Measure each variety's main and ratoon crop yield response to two plant populations and two nitrogen rates on clay and sandy soil.

A. Methods

With help from industry and university rice breeder's 14 long-grain rice varieties or potential varieties were selected for evaluation at Eagle Lake and Beaumont.

The following varieties/lines were planted on March 28 and March 27 at Eagle Lake and Beaumont, respectively:

- **List of varieties evaluated**:

Very Early Maturing Group

1) Jefferson - very early semidwarf with sheath blight tolerance (TX)
2) XL7 - very early hybrid (RiceTec)
3) CL121** - very early semidwarf, herbicide resistant for red rice control (Clearfield)

Early Maturing Group

4) Cocodrie - slightly earlier, Cypress type (LA)
5) Cypress* - standard semidwarf (LA)

6) CL141** - herbicide resistant for red rice control (Clearfield)
7) CL161** - improved herbicide resistant for red rice control (Clearfield)

8) Francis - semidwarf with high yield main crop potential (AR)
9) Saber - semidwarf good tillering, milling and ratoon (TX)

10) XL8 - Hybrid improved lodging resistant and milling (RiceTec)
11) XP710 - Potential new hybrid improved yield, lodging resistant and milling (RiceTec)
12) TX8181 - Potential new semidwarf long grain (TX)
13) TX9092 - Potential new semidwarf long grain (TX)
14) Wells - tall, blast resistant, Newbonnet/Lebonnet cross (AR)

* At Eagle Lake space was limited to 13 varieties so we chose to omit the Cypress variety because we had more information on Cypress than other varieties.
**The Clearfield varieties were grown with conventional herbicide application.

RESEARCH PRESENTATION (cont.)

N rates at Eagle Lake (sandy soil):

- 150 or 200 lbs N/A in three applications (preplant, preflood and PD) on the main crop semidwarf varieties and 90 lbs N/A just prior to flooding the ratoon crop.
- 90 or 120 lbs N/A applied preflood and 60 more near heading for the hybrids plus 70 lbs N/A for the ratoon crop.

N rates at Beaumont (clay soil):

- 170 or 220 lbs N/A applied in 3 applications (preplant, preflood and PD) on semidwarf varieties plus 90 lbs N/A pre-ratoon
- 90 or 120 lbs N/A on hybrids applied preflood and 60 more near heading plus 90 lbs N/A pre-ratoon flood

Plant Populations: (targeted, based on variety seed/lb and germination rate)

- 12 or 24 seedlings/ft^2 for semidwarf
- 9 or 18 seedlings/ft^2 for XL7, XP710 and XL8

Therefore, treatments for Objective One consisted of 112 treatments for both main and ratoon crops created by (2 locations) (2 plant populations) (2 N rates) and (14 varieties).

RESEARCH PRESENTATION (cont.)

B. Results

1) Variety effect on seed/lb, seeding rates and seedlings/ft^2

To provide data for rice producers, consultants and scientists trying to obtain variety specific plant populations for individual fields, we measured seed/lb for each variety and calculated the number of seed/ft^2 produced by seeding rates ranging from 40 to 140 lbs/A for each variety. We report these values on Table 1-A. In Table 1-B, we report the actual seeding rates we used for our targeted 12 or 24 seedlings/ft^2 and the actual achieved seedlings/ft^2 for all varieties at Eagle Lake and Beaumont. We recognize that number of seed/lb or seed size for a given variety can vary 10% or more due to climate, plant population, degree of seed processing (cleaning) and types of seed treatment (i.e., zinc treated seed). Variety can effect seed/lb (or seedling/ft^2) by as much as 25% (i.e., Jefferson has 16,000 seed/lb and Saber has . 20,000 seed/lb). Generally, Jefferson, Gulfmont, Priscilla and Earl have the largest seed and the fewest number of seed/lb (. 16,000/lb). Dixiebelle, CL121, 141 and 161, Saber, Bolivar, Francis, and the new hybrids (XL7 and XL8) tend to have the most seed/lb (. 19,000 to 21,000). The other varieties (Cocodrie, Cypress and Wells) have an intermediate seed size and 17,000 to 18,000 seed/lb.

2) Variety effects on main and ratoon crop yield

Beaumont location (Figure 1-A, 1-B and 1-C)

The three figures on pages 30, 31 and 32 show main crop yields (bottom 1/3 of page), ratoon yield (center of page) and total crop yields (top 1/3 of page) of each variety arranged in decreasing order of average main crop yield at Beaumont. The highest average main crop yielder was the new experimental hybrid XP710 averaging about 10,500 lbs/A followed by Francis (. 9000 lbs/A), Cocodrie (. 8500 lbs/A), XL8 (. 8400 lbs/A), Cypress, XL7, Wells, TX8181 and Jefferson at about 8000 lbs/A followed by CL161 (. 7700 lbs/A), TX9092 (. 7400 lbs/A), CL141 (. 7200 lbs/A), CL121 (. 6900 lbs/A) and Saber averaging (6400 lbs/A).

The highest ratoon yielders were the three hybrids and Saber at 3000 or more lbs/A. Most varieties had ratoon yields between 1500 and 2500 lbs/A, except for Francis which failed to produce measurable ratoon yield.

Highest total yields (between 14,000 and 11,000 lbs/A) were produced by hybrids. The best conventional varieties produced between 9000 and 10,000 lbs/A),

Economic index or ranking which is better than yield for comparing varieties is shown in Table 4 and 5A.

RESEARCH PRESENTATION (cont.)

Eagle Lake location (Figure 2-A,2-B and 2-C)

The three figures on pages 33, 34 and 35 show main crop yields (bottom 1/3 of page), ratoon yields (center of page) and total crop yields (top 1/3 of page) of each variety in decreasing order of average main crop yield at Eagle Lake. The new experimental hybrid XP710 and XL8 yielded highest (between 8000 and 9000 lbs/A) followed by Cocodrie, TX9092, XL7, Wells, CL161, Jefferson, TX8181 and Francis (between 7500 and 8000 lbs/A). With the lower yielding (6500 to 7000 lbs/A) CL141, CL121 and Saber.

Most ratoon yields at Eagle Lake were lower than normal (i.e., below 2500 lbs/A) possibly due to "straight head" related yield constraints. Saber and TX9092 were the exceptions yielding near 3000 lbs/A.

Maximum total yield were between 10,000 and 11,000 lbs/A and achieved by the 3 hybrids and TX9092.

3) Plant population and N effects on main crop and ratoon crop yield

Figures 1-A, 1-B, and 1-C (Beaumont) and 2-A, 2-B, and 2C (Eagle Lake) show the main and ratoon yields of each variety at the two measured plant populations (seedlings/ft^2) and two N rates given in the figures. The seeding rates we used to obtain the measured seedlings/ft^2 are shown in Table 1B, page 24.

- **Beaumont location**
  Figures 1-A, 1-B and 1-C show that under the 2002 high yield conditions at Beaumont maximum main and ratoon crop yields were obtained with the higher N rate (180 lbs N/A for hybrids and 220 lbs N/A for the conventional varieties) even for the lower plant population (10 to 11 seedlings/ft^2 for hybrids and 12 to 17 seedlings/ft^2 for conventional varieties). These data illustrate that plant populations lower than the recommended (9 to 12 seedlings/ft^2 for hybrids and 15 to 20 seedlings/ft^2 for conventional varieties) yield well provided the seedlings are uniformly distributed, tiller well and field conditions do not inhibit plant growth or nitrogen availability.

- **Eagle Lake location**
  Figures 2-A, 2-B and 2-C show that at Eagle Lake yields were slightly less than at Beaumont. Under lower yield conditions and high soil N, plant populations ranging from 6 to 9 seedlings/ft^2 for hybrids and 9 to 17 seedlings/ft^2 for conventional varieties did not effect main or ratoon crop yields. Also, fertilizer N rates between 150 and 200 lbs N/A did not influence main or ratoon yield. These data illustrate that the low plant population and low N rate shown in the figures produced maximum yields at Eagle Lake in 2002 where soil N supply is high.

4) Variety effects on grain milling

Variety had more effect on grain milling than N rate or seeding rate (Appendix Table A and B). Average milling yields for each variety planted early and late at Beaumont and Eagle Lake are shown in Table 3 of the

text.

RESEARCH PRESENTATION (cont.)

Milling yields for the March 27 planting at Beaumont shown in Table 3 identify these 3 varieties with whole grain milling yields of 65% or greater: (Cypress (66%), TX9092 (65%) and Jefferson (65%). Other varieties with whole grain milling yields in the low 60's are Saber (63%), TX8181 (62%), Francis (61%), CL141 (61%), and Wells (60%). Varieties with whole grain milling yield in the high 50's were CL121 and CL161 (59%), XL8 (58%), XL7 (58%), Cocodrie (58%). XP710 milled lower than expected at 49% whole grain.

The whole grain milling yields at Eagle Lake were untypical and generally lower than at Beaumont ranging from 62% to 45%. Varieties milling in the low 60's were Saber (62%), TX8181 (61%), and Jefferson and CL161 (60%). Varieties milling in the high 50's were TX 9092 (59%), CL141 (58%), CL121 (59%), and CL141 (58%). Cocodrie had 55% whole grain milling yields. Francis and Wells had 53% milling yields. While XL7, XL8 and XP710 milled 50, 46 and 45%, respectively. Grain milling for varieties under delayed planting is described in the next section (Objective Two) which follows this section.

RESEARCH PRESENTATION (cont.)

II. OBJECTIVE TWO

Identify varieties with best yield and milling when planted beyond the optimum date.

A. Methods

Varieties were planted March 27 (Beaumont) and March 28 (Eagle Lake) for Objective One and were planted again on May 16 at Eagle Lake and May 13 at Beaumont to identify highest milling varieties in delayed planting conditions. Only the high N rate and plant population were used in the delayed planting to help assure that planting date would be the yield limiting factor. Rice yields were determined for each of the varieties planted early and each of the varieties planted late. Table 2 identifies the highest yielding varieties under delayed planting conditions at Beaumont. Variety yields under late planted conditions at Eagle Lake were lower than they should have been due to factors other than delayed planting such as herbicide burn, possible disease and lodging. The actual yields at Eagle Lake appear in the last paragraph on this page.

B. Results

1. **Delayed planting effects on yield (Table 2)**
   At Beaumont the six-week planting delay (March 27 to May 13) resulted in an average main crop yield loss of 2690 lbs/A for the 14 varieties. The yield loss represents about 450 lbs/A/week due to delaying planting from March 27 to May 13. This year's yield loss due to delayed planting was about double the 250 lbs/A/week average yield loss that occurred in 2000 and 2001. A possible reason for the greater delayed planting yield loss this year is the average yields of early (March 27) planting was about 1000 lbs/A higher than the 7000 lbs/A average early planted yield in 2001. These data continue to illustrate the negative economic effects of planting late plus the fact that late planting eliminates ratoon cropping which is more profitable than the main crop (Table 4).

   The yield data from the 14 varieties in Table 2 show that the highest yielding varieties under late planting conditions are XP710 (7900 lbs/A), XL8 (7200 lbs/A), XL7 (6000 lbs/A) and Cocodrie (5900 lbs/A) which were also the highest yielders under early planting suggesting these varieties yield well under a range of conditions.

   Table 2 does not show data describing the effect of delayed planting on main crop yields at Eagle Lake because the delayed planting yields were untypical and due to other factors other than delayed planting such as herbicide burn, possible disease and lodging. The actual delayed planting yields were as follows: TX8181 (5040 lbs/A), Jefferson (4749 lbs/A), TX9092 (4621 lbs/A), Cocodrie (4510 lbs/A), Francis (4400 lbs/A), Wells (4118 lbs/A), Saber (3883 lbs/A), XL8 (3532 lbs/A), XP710 (3499 lbs/A), CL161 (3448 lbs/A), CL121 (2743 lbs/A), XL7 (2720 lbs/A) and CL141 (1816 lbs/A).

RESEARCH PRESENTATION (cont.)

2. Delayed planting effects on milling

Table 3 shows milling yields as influenced by variety, location, and planting data during 2002. These data show that variety appears to have the strongest effect on milling yields. Location also affected milling yields. Surprisingly Eagle Lake early planted milling yields were lower than those at Beaumont which has traditionally produced lower milling values. The Beaumont delayed planting data is the more reliable data for drawing conclusions regarding planting date effects on main crop milling in 2002. These data show that delayed planting lowered milling yields by about 3%.

RESEARCH PRESENTATION (cont.)

III. OBJECTIVE THREE

Provide a single economic index calculated from each variety's main, ratoon and total crop yield and milling, thus giving a better variety evaluation than separate yield and milling values.

A. Methods

Appendix Table C-1, shows support price of milled rice plus premium based on the variety's milling and grade as of Nov. 1, 2002. James "Tinker" Hewitt of American Rice Growers Co-op Association, Anahuac Division calculated at these prices for us. Table 4 in text summarizes each variety's economic evaluation of main, ratoon and total crop.

B. Results

Objective One (*early planting*) economic analysis

Economic analyses of Objective One's N rate and seeding rate shown in Appendix Tables C-2 and C-3 were averaged for each rice variety to get a net return/A for main crop, ratoon crop and total crop into one simple table (Table 4). Table 4 lists each variety in order of decreasing total crop net return for Eagle Lake and Beaumont. Table 4 provides an overall economic comparison of all varieties for main, ratoon and total crop under 2002 growing conditions at Beaumont and Eagle Lake. A variety's economic index relative to other varieties is a more comprehensive comparison of the variety than a comparison of actual main crop yield, ratoon crop yield or milling quality alone.

The importance of ratoon crop to total crop net income/A is illustrated in that the average ratoon crop net income/A for all varieties was $104/A and $65/A at Beaumont and Eagle Lake, respectively, while the variety main crop net income was minus $20/A at Beaumont and minus $141/A at Eagle Lake.

- **Beaumont (clay soil)**

On the clay soil at Beaumont the hybrids XP710, XL8, and XL7 had the highest total crop economic indexes of 1, 2 and 4, respectively (See Table 4). The hybrid's high total crop economic indexes relative to other varieties came from high main and ratoon yields at Beaumont which tended to compensate for their slightly lower than average milling yields. The total crop economic index of Cypress (3) and Jefferson (4) were higher than Cocodrie (8) because of Cypress' and Jefferson's unusually high milling yield (66 and 65% whole grain) plus Jefferson's high main and ratoon economic indexes as well as Cocodrie's low ratoon crop economic index (12).

RESEARCH PRESENTATION (cont.)

Varieties with lower total crop economic indexes than Cocodrie were TX8181, TX9092, Saber, CL121, CL141, and CL161. In summary, these economic performance data reveal 7 varieties with higher total crop economic index's than Cocodrie. Four of the seven are new varieties (Francis, and the three hybrids) which farmers on clay soils may want to consider for production. Francis had the highest main crop economic index (1) but the lower ratoon crop economic index (14) suggesting that Francis may be a good variety choice for non-ratoon crop producers provided Francis' milling yields are consistent over a variety of main crop conditions.

- **Eagle Lake (sandy soil)**

Under the 2002 growing conditions at Eagle Lake main yields and especially ratoon crop yields were suppressed. Under these conditions there were three promising varieties with main crop yield indexes above Cocodrie (5). They were TX9092 (1), CL161 (2), and TX8181 (3). Francis' relatively low main crop economic index of 8 at Eagle Lake was due to lower than average main crop yield and milling. However, Francis performed well at Beaumont and probably deserves further testing at Eagle Lake under higher yield conditions.

Objective Two (delayed planting) economic analysis

Appendix Table D shows delayed planting treatments, main crop yield and economic analysis at Beaumont. The economic analysis of the 14 varieties planted May 13 at Beaumont show all varieties produced negative economic returns under delayed planted conditions. Varieties and their relative economic index under delayed planting conditions were from 1 to 14 in the following order: XP710, XL8, Cocodrie, Jefferson, TX8181, Francis, XL7, Wells, Cypress, TX9092, CL121, Saber, CL161, and CL141.

RESEARCH PRESENTATION (cont.)

IV. OBJECTIVE FOUR

Identify stand establishment, plant population and nitrogen management principles for each variety.

A. Methods

A variety evaluation summary table was developed from 1999, 2000,2001 and 2002, which shows variety-specific traits that influence variety management and selection. The traits shown in Table 5A and 5B are seed/lb, tillers/plant, minimum and realistic seeding rates used in this study, minimum main crop N rates, lodging, economic ranking for main crop, ratoon crop and total crop, plant height and days from emergence to PD, heading and maturity. The economic indexes for main, ratoon or total crop for each variety indicate relative economic returns based on yield and milling. Therefore, the economic index is a better indicator of a variety's potential than separate milling and yield data. Table 5B provides strong and weak points of a variety based on data from this research. Figures 3-A and 3-B, respectively show number of days from emergence to various growth stages for the early and delayed planting dates at both Beaumont and Eagle Lake. These two figures illustrate planting date and location effects on each varieties days from emergence to various growth stages. Five new varieties (CL161, Francis, TX8181, TX9092 and XP710) were evaluated in 2002.

B. Results

1) See Tables 5A and 5B showing variety specific management and selection traits based on 4 year's data. Tables 5A and 5B are useful in variety selection ----- one of the most important decisions in rice production.

   The economic index is a simple, relative comparison of a varieties main crop (MC), ratoon crop (RC) or total crop (TC) net returns based on yield and milling relative to other varieties grown under similar or recommended conditions. Table 4 shows the economic index of all varieties grown in 2002. Table 4 shows the varieties relative economic ranking or index in parenthesis with (1) being the highest and (14) the lowest for 2002. Table 5A presents the main crop, ratoon crop or total crop economic index for each variety grown in 1999/2000/2001/2002. For example, Table 5A shows the economic index of Cypress for MC yield at Eagle Lake as 8/2/2/- meaning that Cypress' main crop economic ranking for 1999 was "8". In 2000, Cypress' economic ranking was "2". In 2001, it was "2" and "-" in 2002, "-" signifies that Cypress was not grown in Eagle Lake or data are not available for that year.

   At Eagle Lake in 2002 there were three new varieties (TX9092, CL161, and TX8181) without significant weakness' and with higher main crop economic ranking than Cocodrie. The main crop high economic index of these three varieties suggest that they may offer a possible avenue for

higher

RESEARCH PRESENTATION (cont.)

economic returns than Cocodrie on sandy soils. At Beaumont in 2002, there were two varieties (Francis and XP710) without significant main crop weaknesses and with higher main crop economic ranking than Cocodrie. These two varieties may offer a change for production on clay soils to increase net returns over Cocodrie.

The first evaluation of Francis shows excellent main crop yields at Beaumont (i.e., Francis had a MC, RC and TC economic index of 2, 14 and 6, respectively). However, under the lower yielding conditions observed at Eagle Lake this year, Francis was less productive (i.e., had MC, RC and TC economic index of 8, 13 and 8, respectively). Thus the initial evaluation of Francis was positive for MC yields at Beaumont but not so for ratoon crop. These data also suggest that consistent yields may be a weakness of Francis.

2) The maximum tillering potential at maturity of each variety when planted in a 10 inch by 10 inch grid on research plots at Beaumont during 2000 is shown on Table 5A. The highest tillering variety was XL8 with 36 tillers/plant. The other hybrids XL7 and XP710 (33 and 27 tillers at maturity, respectively) also showed excellent tillering ability. CL161 showed very high tillering ability with 33 tillers at crop maturity compared to other herbicide resistant varieties and with CL121 (21 tillers) and CL141 (25 tillers). Cocodrie was the highest tillering variety (31 tillers) of the currently grown varieties. Cypress produced 28 tillers at crop maturity. TX8181 and TX9092 produced 27 and 20, respectively, as shown in Table 5A.

RESEARCH PRESENTATION (cont.)

V. OBJECTIVE FIVE

Collect variety development data others can use for developing DD-50 values for predicting critical growth stages.

A. Methods

Days from emergence to critical growth stages were recorded for all the varieties grown in the early and delayed planting studies at Beaumont and Eagle Lake.

B. Results

Growth interval data as shown in Figures 3-A and 3-B can help rice producers identify which varieties will mature first and last under delayed and early planting. Also the days to various growth stages coupled with heat unit accumulation can be used by research to develop DD-50 data for predicting critical growth stages in specific varieties. Also Table 5B gives data on days from emergence to important growth stages.

It was observed that higher N rate and lower plant population delay heading and maturity 3 to 5 days.

Table 1-A. This table illustrates how seed/pound (i.e., seed size) can influence the numbers of seed/ft^2 at various seeding rates. The number of live seedlings/ft^2 will depend on germination rate and planting conditions.**

		Seeding Rate lbs/A										
Variety	Seed/lb*	40	50	60	70	80	90	100	110	120	130	140
		Seed/ft.**										
Ahrent	20500	19	24	28	33	38	42	47	52	56	61	66
Bolivar	18500	17	21	25	30	34	38	42	47	51	55	59
CL121	19200	18	22	26	31	35	40	44	48	53	57	62
CL141	19100	18	22	26	31	35	39	44	48	53	57	61
CL161	19800	18	23	27	32	36	41	45	50	55	59	64
Cocodrie	19200	18	22	26	31	35	40	44	48	53	57	62
Cypress	18400	17	21	25	30	34	38	42	46	51	55	59
Dixiebelle	20500	19	24	28	33	38	42	47	52	56	61	66
Earl	16100	15	18	22	26	30	33	37	41	44	48	52
Francis	21600	20	25	30	35	40	45	50	55	60	64	69
Gulfmont	16800	15	19	23	27	31	35	39	42	46	50	54
Jacinto	21300	20	24	29	34	39	44	49	54	59	64	68
Jefferson	16200	15	19	22	26	30	33	36	41	45	48	52
Priscilla	17000	16	20	23	27	31	35	39	43	47	51	55
Saber	20800	19	24	29	33	38	43	48	53	57	62	67
Wells	18000	17	21	25	29	33	37	41	45	50	54	58
XL6	18000	17	21	25	29	33	37	41	45	50	54	58
XL7	21300	20	24	29	34	39	44	49	54	59	64	68
XL8	21500	20	25	30	35	39	44	49	54	59	64	69

* Seed/lb values are averages and can vary as much as 10% depending on yield and degree of seed processing.

** 100% to 60% of the seed would be expected to emerge depending on % germination and planting conditions.

Table 1-B. Variety and seeding rate effects on seedling survival and seedlings/ft^2 - 2002.

Variety	Desired Population (plants/sq.ft.)	Seeding Rate Adjusted for 95% Survival (lbs/A)	Beaumont		Eagle Lake	
			Achieved Population (plants/sq.ft.)	% Survival*	Achieved Population (plants/sq.ft.)	% Survival*
Saber	12	29	10	69	9	62
Saber	24	59	24	82	17	58
TX8181	12	42	17	93	10	55
TX8181	24	84	27	74	17	46
TX9092	12	35	15	92	9	55
TX9092	24	69	25	78	15	47
Jefferson	12	37	13	89	10	68
Jefferson	24	74	22	75	17	58
Cocodrie	12	37	14	83	10	59
Cocodrie	24	74	23	68	18	53
CL121	12	35	12	85	12	85
CL121	24	69	21	76	20	72
CL141	12	33	11	77	13	91
CL141	24	65	24	85	18	64
CL161	12	32	14	96	9	62
CL161	24	63	23	80	17	59
Cypress	12	33	12	89	N/A	N/A
Cypress	24	65	23	86	N/A	N/A
Wells	12	35	12	81	11	74
Wells	24	69	25	85	15	53
XL7	9	22	10	89	8	72
XL7	18	44	17	76	N/A	N/A
XL8	9	22	10	93	7	65
XL8	18	44	20	93	N/A	N/A
XP710	9	25	10	98	8	78
XP710	18	50	19	93	N/A	N/A

Table 2. Delayed planting effect on main crop yield of 9 conventional varieties, 3 herbicide resistant and 3 hybrids

at Beaumont during 2002.

Variety	Main crop yields lbs/A		Yield
	March 27 planting	May 13 planting	Decrease
XP710	10,533 (1)	7894 (1)	2639
XL8	8397 (4)	7197 (2)	1200
XL7	8138 (6)	6017 (3)	2121
Cocodrie	8531 (3)	5864 (4)	2667
Wells	7989 (7)	5670 (5)	2319
Jefferson	7920 (8)	5556 (6)	2364
Francis	9153 (2)	5512 (7)	3641
TX8181	7898 (9)	5099 (8)	2799
Cypress	8203 (5)	4791 (9)	3412
TX9092	7393 (11)	4405 (10)	2988
CL121	6896 (13)	4306 (11)	2590
Saber	6354 (14)	4138 (12)	2216
CL141	7172 (12)	4128 (13)	3044
CL161	7706 (10)	4047 (14)	3659
Avg. =	8020	5330	2690

* numbers in ( ) represent yield ranking within a planting date

Table 3. Milling yields as influenced by variety, location, early planting (Objective One) and delayed planting (Objective Two) during 2002.

Variety	Rice milling yields = % whole grain / % total milled					
	Beaumont			Eagle Lake		
	Mar 27	May 13	Difference*	Mar 28	May 16**	Difference*
Wells	60/72	63/69	+3	53/71	58/70	+5
Francis	61/70	56/64	-5	53/69	57/68	+4
Cocodrie	58/68	62/69	+4	55/67	62/70	+7
Cypress	66/70	63/67	-3	N/A	N/A	-
TX8181	62/69	63/88	+1	61/70	63/70	+2
TX9092	65/70	62/68	-3	59/69	63/70	+4
Jefferson	65/71	57/66	-8	60/69	64/71	+4
Saber	63/68	60/65	-3	62/67	61/67	-1
CL121	59/68	60/66	+1	59/69	62/71	+3
CL141	61/69	57/64	-4	58/68	61/69	+3
CL161	59/65	52/66	-7	60/70	50/67	-10
XL7	58/71	53/67	-5	50/69	50/68	0
XL8	58/70	53/66	-5	46/67	54/69	+8
XP710	49/68	54/64	+6	45/67	47/66	+2

* Difference in % whole grain milling due to delayed planting

** These milling yield data from delayed planting are not typical of poor yields obtained in the delayed planting at Eagle Lake due to possible herbicide burn and uncharacteristic lodging caused by possible stem rot.

Table 4. Summary of economic performance based on main, ratoon and total yield as well as milling and grade when planted March 28, 2002 at Eagle Lake and March 27, 2002 at Beaumont. Varieties are listed in order of decreasing total crop net returns/A. Parentheses in the main and ratoon columns indicate the varieties relative economic index. See Appendix Tables C-2 and C-3 which show the main crop and ratoon crop yields and milling yield used to calculate net value/A. Appendix Table C-1 shows variety support and premium price for main crop.

* NET MAIN, RATOON AND TOTAL CROP VALUE $/A AND ECONOMIC INDEX IN ( ) **

Beaumont Net Value $/A						Eagle Lake Net Value $/A					
Variety	Main Crop	+	Ratoon Crop	=	Total	Variety	Main Crop	+	Ratoon Crop	=	Total
1)	$65 (2)		$158 (4)		$223	1) TX909	$-112 (1)		$162 (1)		$50
2)	-18 (8)		210 (1)		192	2) Wells	-141 (6)		104 (3)		-37
3)	25 (4)		124 (5)		149	3) TX8181	-119 (3)		81 (5)		-38
4)	-29 (9)		170 (2)		141	4) CL161	-118 (2)		63 (7)		-55
5)	42 (3)		70 (10)		112	5) Jeffers	-126 (4)		63 (8)		-63
6)	93 (1)		0 (14)		93	6) XL7	-181 (10)		114 (2)		-67
7)	9 (6)		80 (9)		89	7) Cocodr	-133 (5)		60 (9)		-73
8)	25 (5)		62 (12)		87	8) XL8	-183 (12)		93 (4)		-90
9)	2 (7)		84 (8)		86	9) Saber	-195 (13)		179 (6)		-116
10)	-108 (13)		162 (3)		54	10) XP710	-182 (11)		48 (10)		-134
11)	-101 (12)		111 (7)		9	11) CL141	-181 (9)		26 (11)		-155
12)	-63 (10)		68 (11)		5	12) CL121	-172 (7)		14 (12)		-158
13) TX9092	-144 (14)		121 (6)		-23	13) Francis	-176 (8)		-7 (13)		-183
14) CL121	-85 (11)		54 (13)		-31						
Avg =	-20	%	104	=	84	Avg =	-141	%	65	=	-76

* See Appendix Table C-1 for formula used to calculate net income

** Numbers in ( ) indicate economic index or ranking for main or ratoon crops. A varieties economic index reflects the varieties yield and milling for main, ratoon or total crop yield in 2002.

Table 5A. Summary table for variety specific management with an economic index or ranking of each variety's main crop (MC), ratoon crop (RC) and total crop (TC) potential at two locations in 1999, 2000,2001 and 2002.

Variety Name and Group	1000 Seed/pound/A[1]	Max tillers/plant[2]	Seeding rates lbs/A[3]	Minimum Main Crop N rate (Lbs/A)[4]		Lodging Potential	1999/2000/2001/2002 Economic index or ranking[5]					
							Eagle Lake			Beaumont		
				Sand	Clay		MC	RC	TC	MC	RC	TC
True semidwarf less than 100 cm (39") tall												
Bolivar	Med 19-20	23	39 to 77	150	170	very low	-/8/10/-	-/1/8/-	-/4/10/-	-/7/5/-	-/2/2/-	-/4/5/-
TX8181	Med 19	27	38 to 76	150	170	low	-/-/-/3	-/-/-/5	-/-/-/3	-/-/-/7	-/-/-/8	-/-/-/9
Cocodrie	Med 19-20	31	29 to 58	150	170	low	1/1/4/5	10/4/5/9	6/1/4/7	2/2/2/5	11/8/3/12	4/3/3/8
Cypress	Med 19-20	28	35 to 68	150	170	low	8/2/2/-	6/5/7/-	8/2/2/-	10/8/4/3	7/3/7/10	9/6/5/5
Dixiebelle	High 20-22	19	33 to 66	150	170	very low	4/4/-/-	2/3/-/-	1/3/-/-	7/9/- /-	10/6/-/-	7/9/-/-
Gulfmont	Med 17	19	34 to 68	150	170	very low	6/10/-/-	4/6/-/-	5/9/-/-	1/5/-/-	6/7/-/-	2/7/-/-
Jefferson	Low 16	21	38 to 75	150	200	very low	5/7/6/4	11/6/3/8	10/7/5/5	4/3/7/4	8/4/4/5	5/5/6/3
TX9092	Med 19-20	20	28 to 56	150	170	very low	-/-/-/1	-/-/-/1	-/-/-/1	-/-/-/14	-/-/-/6	-/-/-/13
Saber	High 20-21	29	28 to 56	150	170	very low	-/8/9/13	-/9/1/6	-/9/6/9	-/10/3/13	-/9/1/3	-/10/1/10
Taller than semidwarf												
Wells	Med 18	21	32 to 64	150	170	low	2/6/1/6	7/8/4/3	3/8/1/2	3/1/1/6	1/5/5/9	1/2/2/7
Francis	High 20-21	21	29 to 59	150	170	low	-/-/-/8	-/-/-/13	-/-/-/8	-/-/-/1	-/-/-/14	-/-/-/6
Hybrid varieties												
XL6	Med 18	34	31 to 62	60	120	high	-/-/-/-	-/-/-/-	-/-/-/-	-/-/-/-	-/-/-/-	-/-/-/-
XL7	High 21-22	33	22 to 43	150	180	low	-/-/-/10	-/-/-/2	-/-/-/6	-/-/-/9	-/-/-/2	-/-/-/4
XL8	High 21-22	36	22 to 43	150	180	low	-/-/-/12	-/-/-/4	-/-/-/8	-/-/-/8	-/-/-/1	-/-/-/2
XP710	High 21-22	27	22 to 43	150	180	low	-/-/-/11	-/-/-/10	-/-/-/11	-/-/-/2	-/-/-/4	-/-/-/1
Herbicide resistant rice												
CL121	Med 19-20	21	36 to 71	140	160	low	-/-/5/7	-/-/2/12	-/-/3/12	-/-/8/11	-/-/6/13	-/-/7/14
CL141	Med 19-20	25	36 to 71	130	150	medium	-/-/8/9	-/-/9/11	-/-/9/11	-/-/9/12	-/-/10/7	-/-/10/11
CL161	Med 19	33	29 to 59	150	170	low	-/-/-/2	-/- /-/7	-/-/-/4	-/-/-/10	-/-/-/11	-/-/-/12

[1]Can vary 10% due to climate, cultural practices, seed cleaning and seed treatment (coatings).

[2]Tillers/plant at maturity after plants were spaced 10" apart and grown adjacent to research plots at Beaumont in 2002.

[3]Seeding rates used to achieve targeted plant populations of 12 and 24 seedlings/ft^2 when drill-seeded in very good seedbeds for 2002.

[4]N was applied to MC at PP (30%), PF (40%) and PD (30%). XL7, XL8 and XP710 received90 or 120 lbs of their N at preflood and 60 lbs near heading. Ratoon crop received 70 or 90 lbs N/A just prior to ratoon flood at Eagle Lake and Beaumont, respectively.

[5]The economic analysis ranking is based on the combination of yield, milling and grain quality for MC and RC relative to other varieties grown under the same climatic conditions. (1=highest net returns/A; 11 to 14=lowest net returns). 3/8/5/1 = economic ranking of 3 in 1999, an economic ranking of 8 in 2000, 5 in 2001 and 1 in 2002. The dash (-) means variety not evaluated or index not valid.

= varieties with highest economic ranking (i.e., in top 4 at least twice in past four years)

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Texas Rice Research Foundation funded this research

Table 5B. Additional information on varieties.

	Days from emergence to: (early planting)			Mature Plant Height (inches)	MC[1] = main crop / RC[2] = ratoon crop / SB[4] = sheath blight EL[5] = Eagle Lake / BMT[6] = Beaumont / H[3] = Houston	
Variety	PD	HD	Maturity*		Variety strengths	Variety weaknesses
Bolivar	60	78-79	107-108	-	milling, earliness, ratoon	MC[1] yield
Cocodrie	60	76-79	111-120	36-38	MC consistency	RC[2] variability
Cypress	62	85	117-122	38	MC quality	inconsistent yields east of H[3]
Dixiebelle	57	77-82	107-116	31-33	cooking quality, high RC yield	MC yield
Jefferson	52	72-73	106-108	33-35	earliness, SB[4] tolerance	chalkiness, inconsistent milling
Saber	59	78-80	106-110	39-40	high ratoon yields, milling	MC yield
TX8181	58	77-78	108-113	36-38	1st year good economic index at EL[5] but not at BMT[6]	inconsistency
TX9092	56	77-78	106-112	36-37	1st year good economic index at EL but not at BMT	inconsistency
Wells	59	77-79	109-115	38-39	high but inconsistent yield	inconsistent milling, tall
Francis	58	79-84	115-122	39-42	high MC yield	low RC yields inconsistent milling and yield
XL7	58	73-76	106-107	41-45	earliness; ratoon crop, disease resistance	seed cost, milling
XL8	61	79-82	112-114	39-42	high yield, ratoon crop, disease resistance	seed cost, milling
XP710	62	84	118-121	42-44	very high yield, ratoon crop, disease resistance	seed cost, milling
CL121	55	70-76	106-110	34-35	red rice control, earliness	inconsistent yield
CL141	56	77	108-110	42-43	red rice control, earliness	sheath blight and lodging
CL161	60	79-84	111-119	38-39	improved yield and herbicide resistance; red rice control	RC

***Larger number for Beaumont, small number for Eagle Lake site**

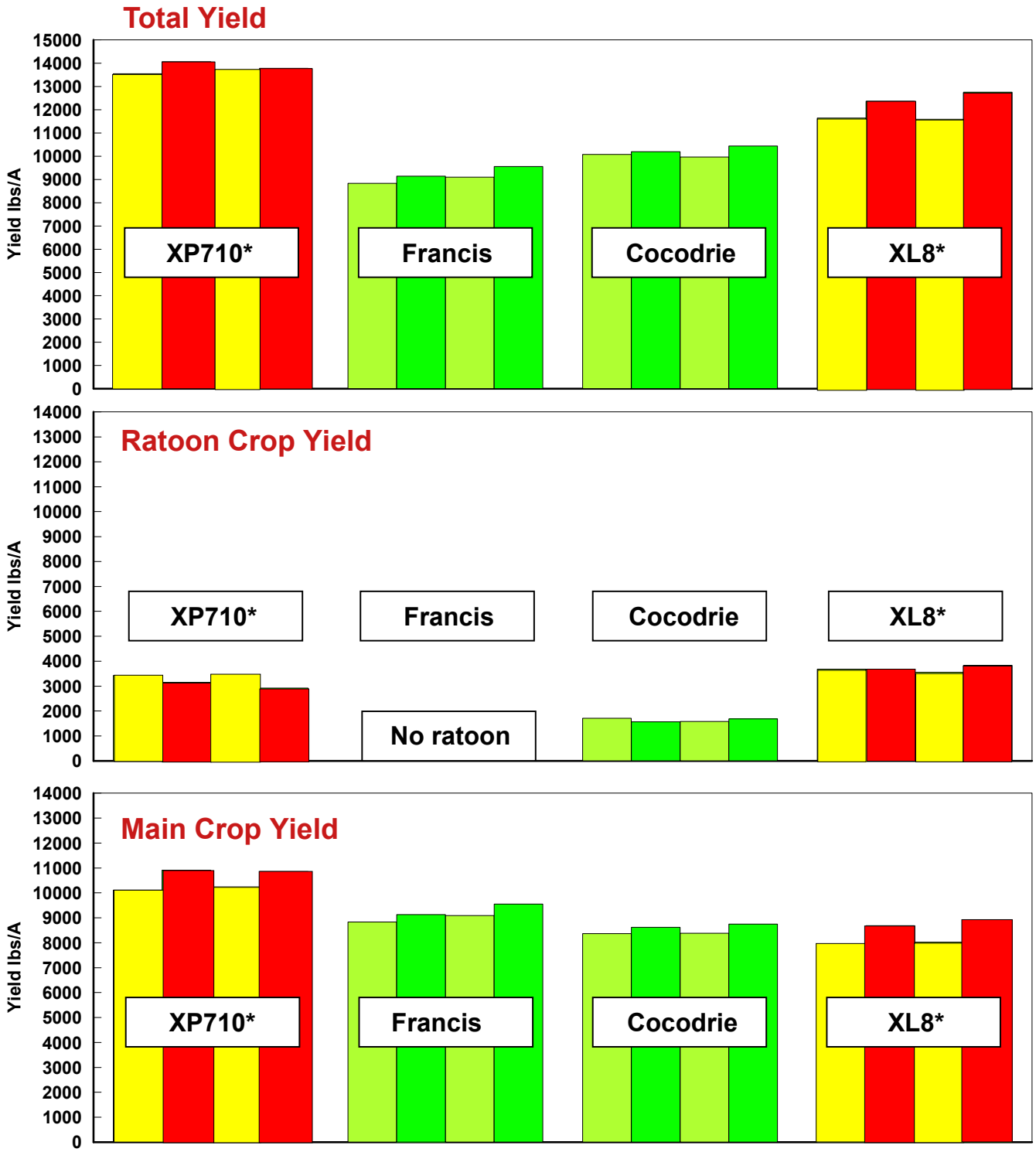
Fig. 1-A

Beaumont

Main and Ratoon Crop Yield Response to N Rate and Seedlings/ft² for 14 Varieties at Beaumont in 2002. Planted March 27 and Arranged in Order of Decreasing Main Crop Yield.

*XL7, XL8 and XP710 received → 150 lbs main crop N/A or 180 lbs main crop N/A

Other varieties received → 170 lbs main crop N/A or 220 lbs main crop N/A



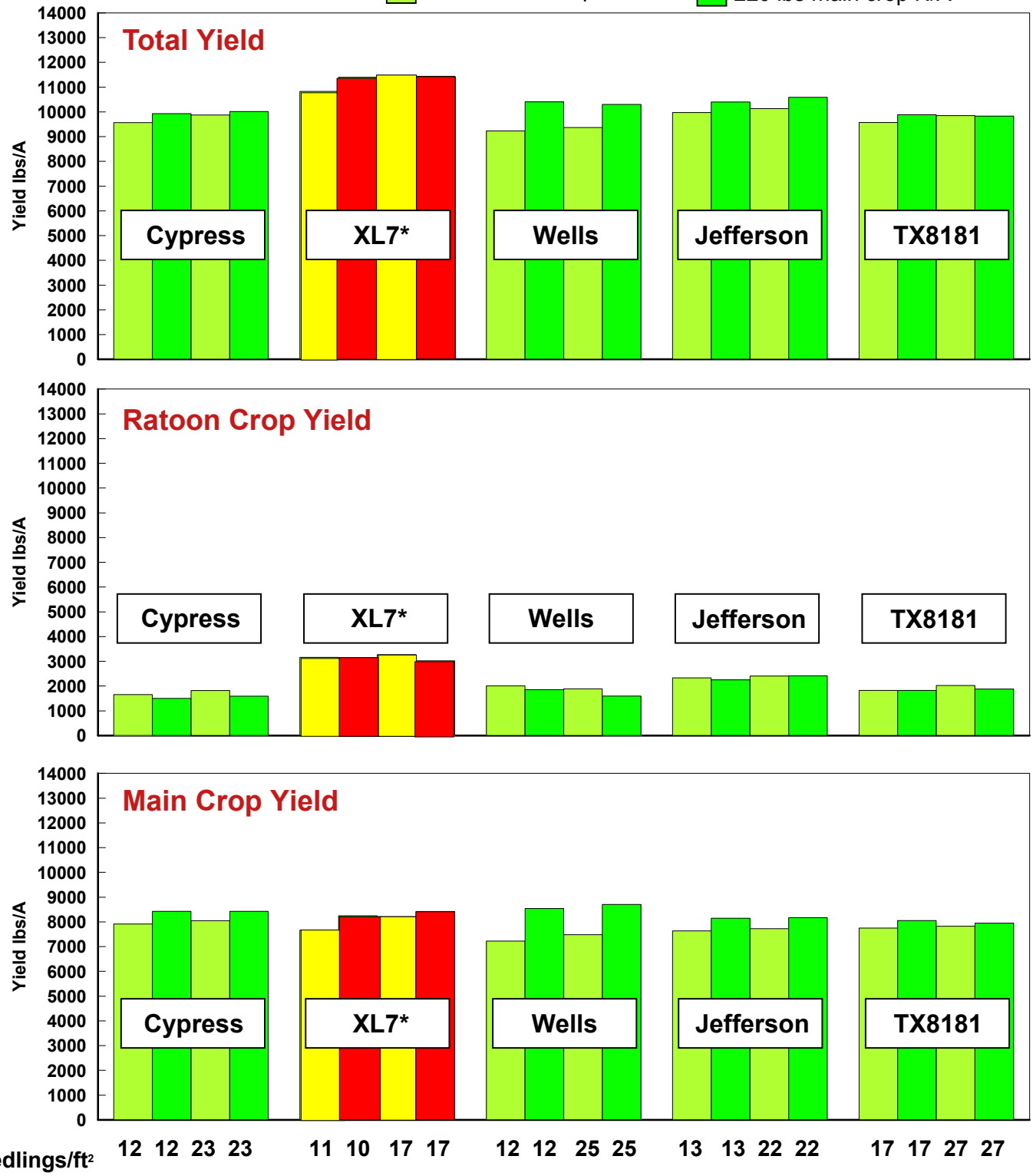
Seedlings/ft²	11	11	19	19	15	14	22	26	14	14	23	23	10	10	20	20
Emergence to maturity (days)	109				110				109				102			

Continued on next page

Fig. 1-B

Main and Ratoon Crop Yield Response to N Rate and Seedlings/ft² for 14 Varieties at Beaumont in 2002. Planted March 27 and Arranged in Order of Decreasing Main Crop Yield.

*XL7, XL8 and XP710 received → 150 lbs main crop N/A or 180 lbs main crop N/A
Other varieties received → 170 lbs main crop N/A or 220 lbs main crop N/A



	Cypress	XL7*	Wells	Jefferson	TX8181
Seedlings/ft²	12 12 23 23	11 10 17 17	12 12 25 25	13 13 22 22	17 17 27 27
Emergence to maturity (days)	111	94	103	97	101

Continued on next page

Fig. 1-C

Main and Ratoon Crop Yield Response to N Rate and Seedlings/ft² for 14 Varieties at Beaumont in 2002. Planted March 27 and Arranged in Order of Decreasing Main Crop Yield.

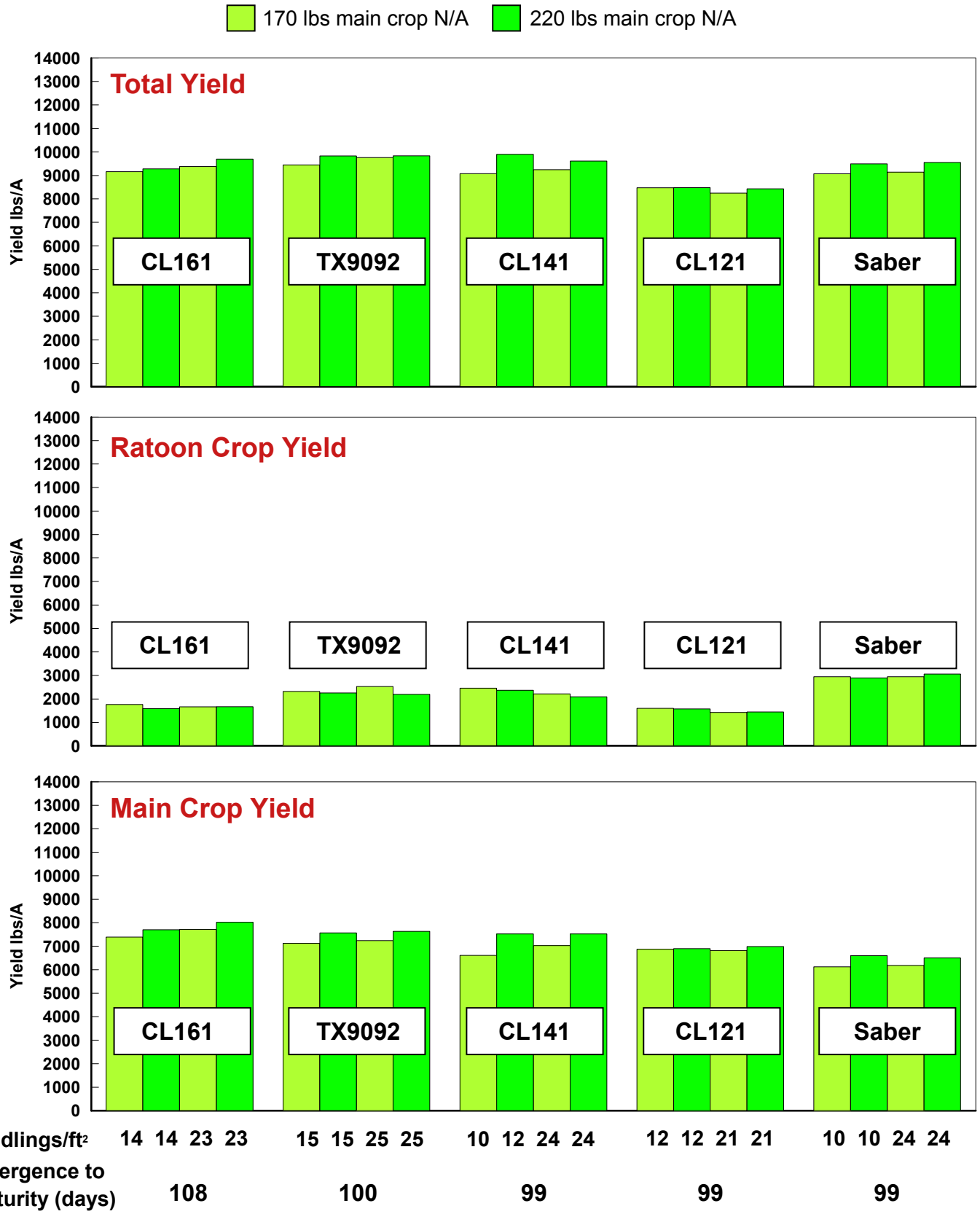


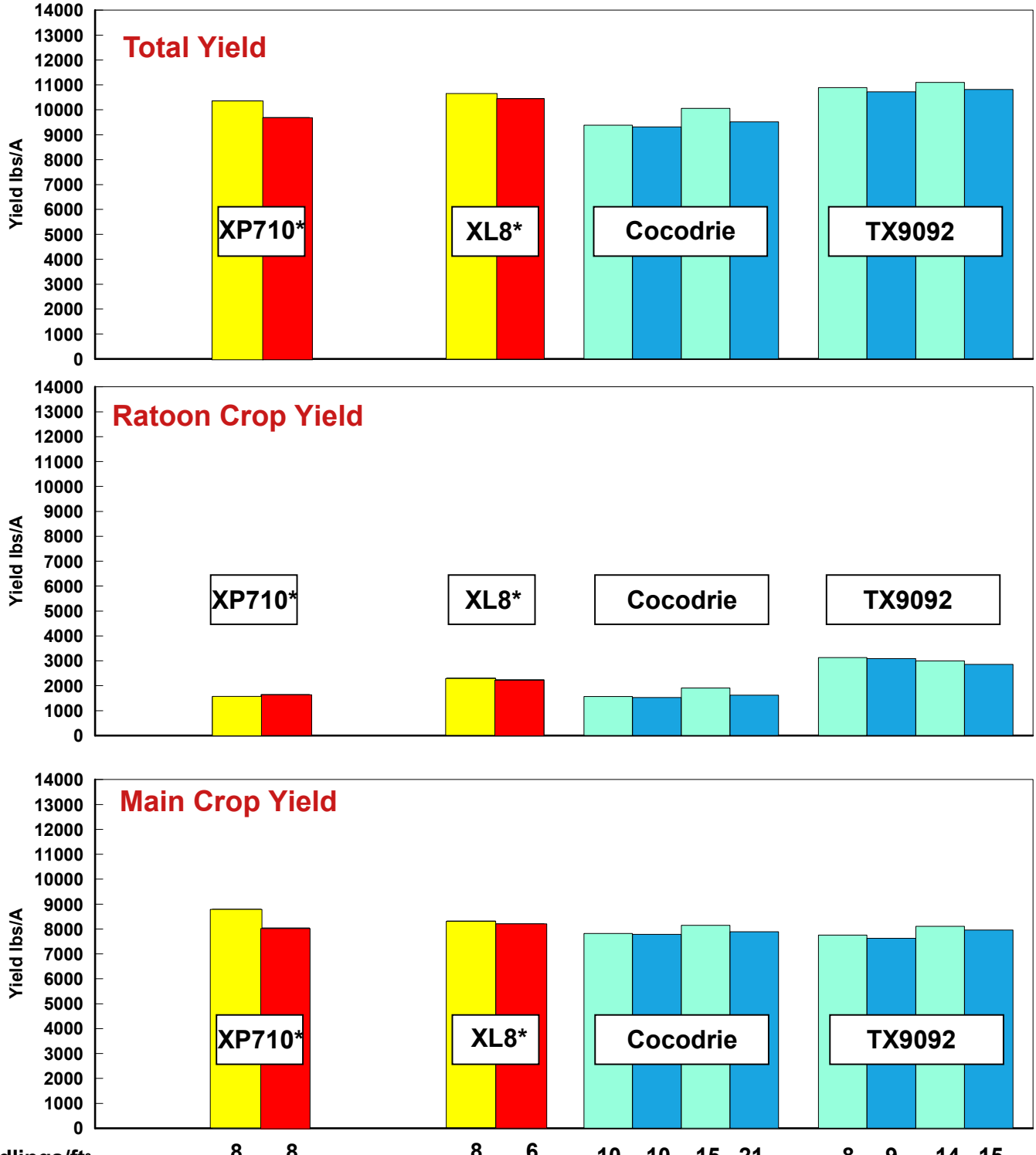
Fig. 2-A

Eagle Lake

Main and Ratoon Crop Yield Response to N Rate and Seedlings/ft² for 13 Varieties at Eagle Lake in 2002. Planted March 28 and Arranged in Order of Decreasing Main Crop Yield.

*XL7, XL8 and XP710 received → 150 lbs main crop N/A or 180 lbs main crop N/A

Other varieties received → 150 lbs main crop N/A or 200 lbs main crop N/A



	XP710*		XL8*		Cocodrie				TX9092			
Seedlings/ft²	8	8	8	6	10	10	15	21	8	9	14	15
Emergence to maturity (days)	119		112		111				107			

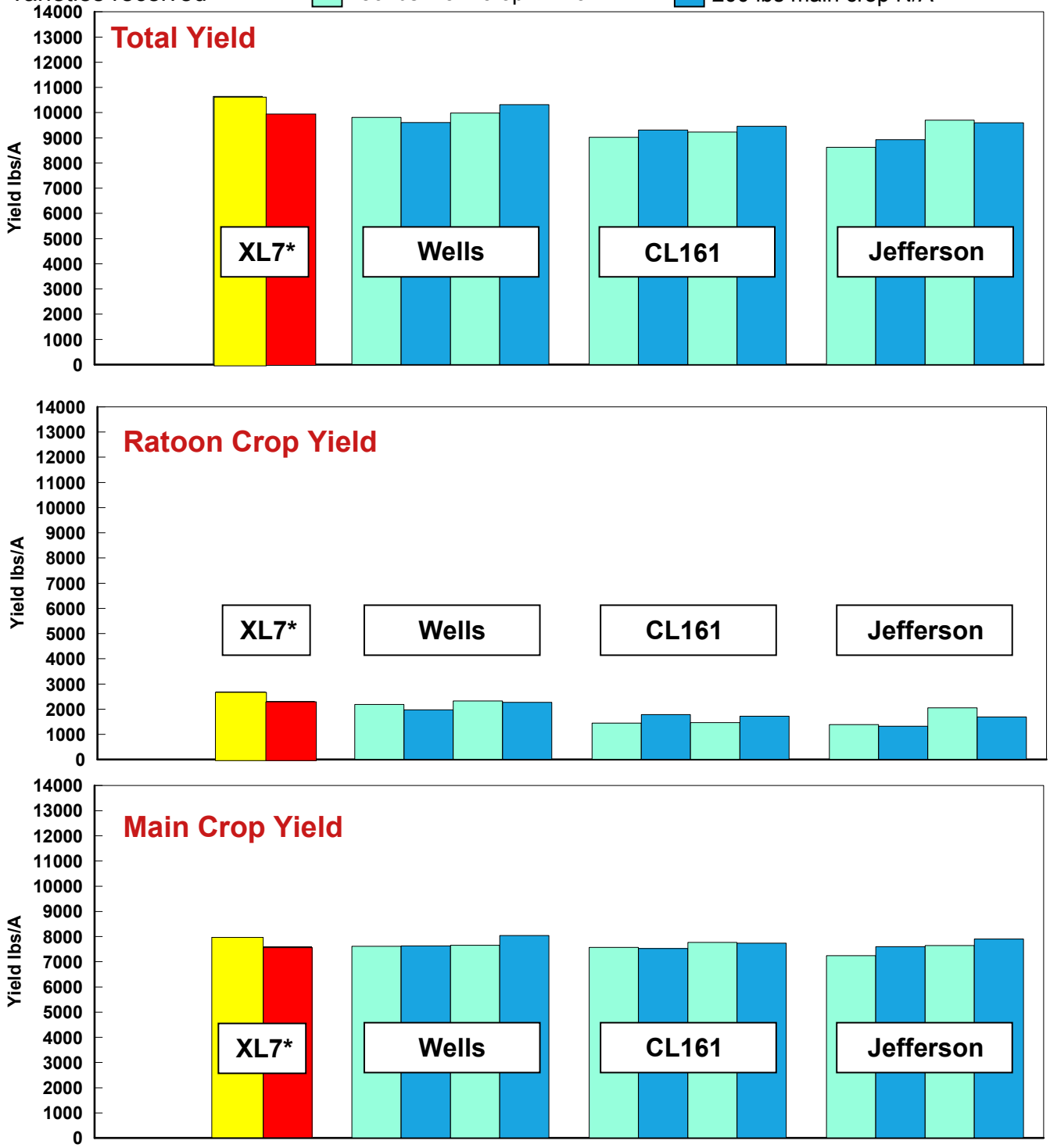
Continued on next page

Fig. 2-B

Main and Ratoon Crop Yield Response to N Rate and Seedlings/ft² for 13 Varieties at Eagle Lake in 2002. Planted March 28 and Arranged in Order of Decreasing Main Crop Yield.

*XL7, XL8 and XP710 received → 150 lbs main crop N/A or 180 lbs main crop N/A

Other varieties received → 150 lbs main crop N/A or 200 lbs main crop N/A

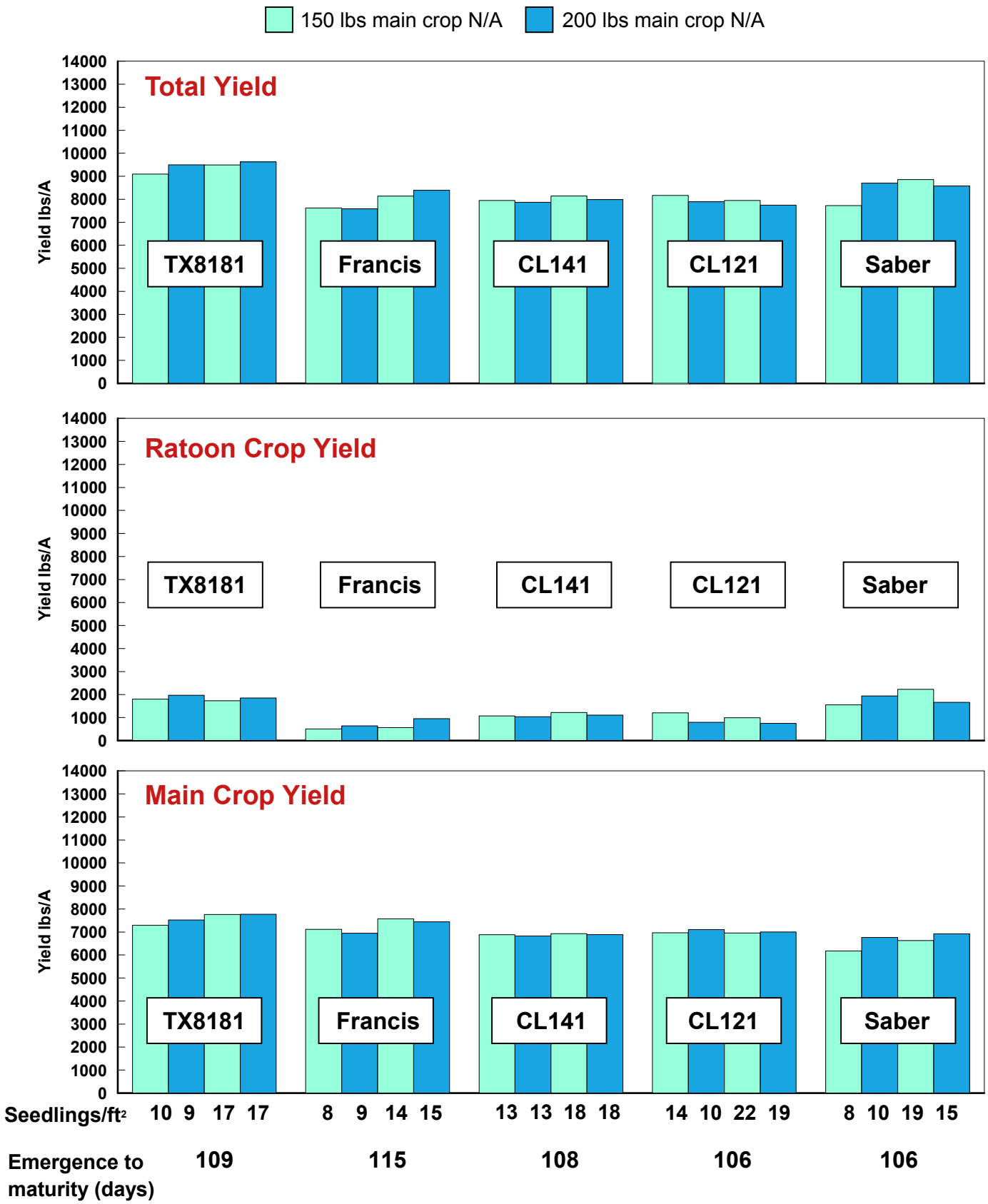


	XL7*		Wells				CL161				Jefferson			
Seedlings/ft²	7	9	12	10	15	17	10	8	16	17	11	8	17	17
Emergence to maturity (days)	108		110				111				106			

Continued on next page

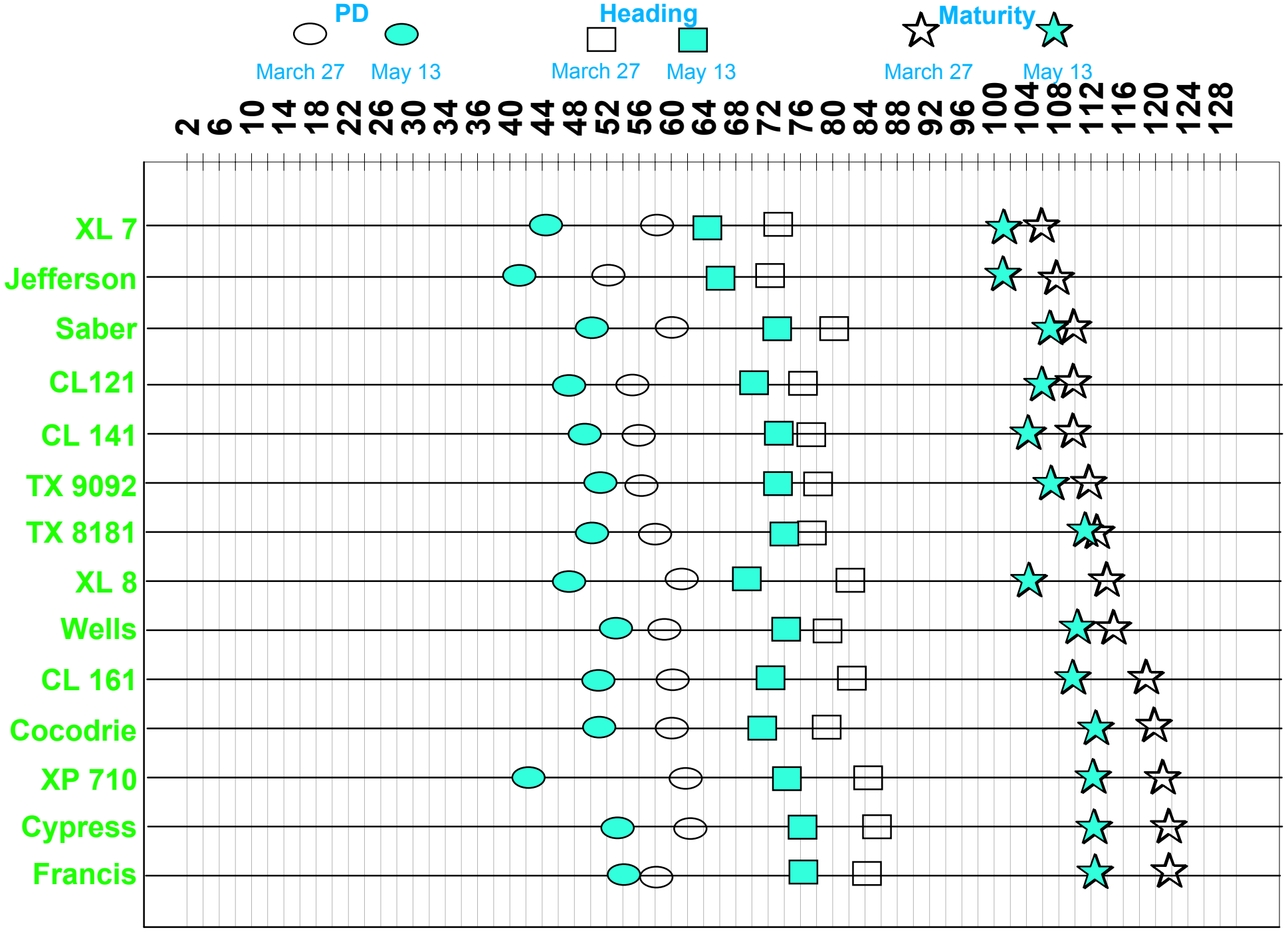
Fig. 2-C

Main and Ratoon Crop Yield Response to N Rate and Seedlings/ft² for 13 Varieties at Eagle Lake in 2002. Planted March 28 and Arranged in Order of Decreasing Main Crop Yield.



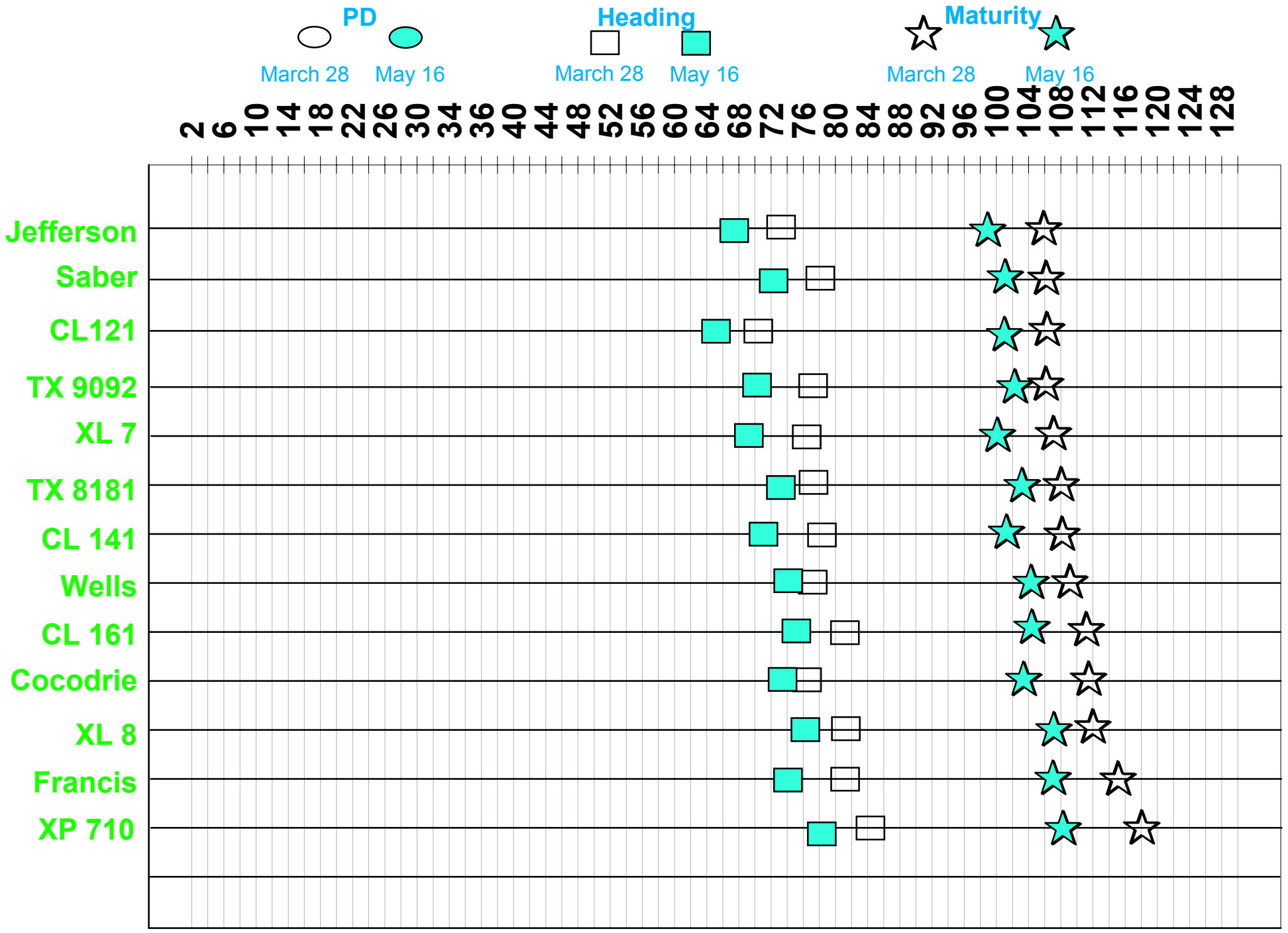
Appendix Figure 3A

Growth Stage Intervals When Planted March 27 & May 13, 2002 At Beaumont



Appendix Figure 3B

Growth Stage Intervals When Planted March 28 & May 16, 2002 At Eagle Lake



Appendix Table A:

Eagle Lake Yield Summary

Trt.	Variety	Desired Population	N Rate	Plants/ Sq.Ft.	M.C. Yield Lbs/ac 12% M.	Ratoon Yield Lbs/ac 12% M.	Total Yield Lbs/ac 12% M.	M.C. Days to Head	M.C. Days to Mat	M.C. Plant Ht. (cm)	M.C. % Whole	M.C. % Total	R.C. % Whole	R.C. % Total
21	Ccdr	12	150	10	7822	1564	9386	77	110	90	55.5	67.6	59.0	69.8
22	Ccdr	24	150	15	8144	1913	10057	74	110	88	55.5	68.1	60.9	70.5
27	Ccdr	12	200	10	7787	1527	9314	78	112	95	53.8	66.4	60.3	70.1
28	Ccdr	24	200	21	7890	1627	9517	77	111	94	53.9	67.5	60.5	70.6
Avg Across All Treatments				14	7911	1658	9568	76	111	92	55	67	60	70
5	CL 121	12	150	14	6972	1201	8173	70	106	88	60.0	70.2	36.1	64.0
6	CL 121	24	150	22	6960	992	7952	69	105	87	58.1	68.9	47.9	62.7
15	CL 121	12	200	10	7102	790	7893	70	107	91	57.9	68.3	49.8	63.4
16	CL 121	24	200	19	7003	745	7749	69	106	89	58.9	69.0	47.4	63.0
Avg Across All Treatments				16	7009	932	7942	70	106	89	59	69	45	63
9	CL 141	12	150	13	6879	1076	7955	76	108	109	56.9	68.5	49.6	64.2
10	CL 141	24	150	18	6924	1217	8141	76	106	108	58.5	69.0	47.3	64.7
19	CL 141	12	200	13	6832	1036	7868	77	109	113	58.4	68.1	49.3	64.2
20	CL 141	24	200	18	6884	1110	7994	77	108	112	58.8	67.9	47.7	64.6
Avg Across All Treatments				16	6880	1110	7990	77	108	110	58	68	48	64
33	CL 161	12	150	10	7575	1447	9022	80	111	98	60.1	69.8	58.1	69.9
34	CL 161	24	150	16	7767	1465	9232	77	110	97	60.7	70.4	59.2	70.6
41	CL 161	12	200	8	7522	1788	9310	80	112	99	58.9	69.5	58.8	70.5
42	CL 161	24	200	17	7737	1725	9462	78	111	99	59.5	69.0	59.6	70.5
Avg Across All Treatments				13	7650	1606	9257	79	111	98	60	70	59	70
23	Frns	12	150	8	7114	505	7619	81	115	99	54.2	69.1	51.4	67.0
24	Frns	24	150	14	7573	561	8134	78	113	97	53.5	69.8	52.9	67.3
29	Frns	12	200	9	6943	645	7588	80	118	100	53.4	67.7	51.5	66.6
30	Frns	24	200	15	7448	949	8397	79	115	103	52.7	68.2	55.5	69.5
Avg Across All Treatments				12	7270	665	7935	79	115	100	53	69	53	68
7	Jeff	12	150	11	7239	1386	8625	73	106	88	61.4	69.7	48.7	64.4
8	Jeff	24	150	17	7647	2057	9704	72	106	86	59.8	69.5	49.7	65.6
17	Jeff	12	200	8	7605	1327	8932	74	107	92	59.8	68.7	51.4	65.8
18	Jeff	24	200	17	7906	1691	9598	72	106	89	59.0	69.0	51.3	65.7
Avg Across All Treatments				13	7599	1615	9215	73	106	89	60	69	50	65
3	Saber	12	150	8	6174	1555	7729	79	106	100	61.2	66.8	51.2	65.5
4	Saber	24	150	19	6627	2229	8856	77	105	99	61.1	67.2	51.6	65.4
13	Saber	12	200	10	6767	1939	8707	80	107	102	62.6	67.2	48.0	65.0
14	Saber	24	200	15	6919	1661	8579	77	105	102	62.2	67.3	49.5	64.9
Avg Across All Treatments				13	6622	1846	8468	78	106	101	62	67	50	65

Appendix Table A continued:

Trt.	Variety	Desired Population	N Rate	Plants/ Sq.Ft.	M.C. Yield Lbs/ac 12% M.	Ratoon Yield Lbs/ac 12% M.	Total Yield Lbs/ac 12% M.	M.C. Days to Head	M.C. Days to Mat	M.C. Plant Ht. (cm)	M.C. % Whole	M.C. % Total	R.C. % Whole	R.C. % Total
39	TX8181	12	150	10	7298	1802	9100	79	109	91	61.4	69.2	58.5	70.2
40	TX8181	24	150	17	7763	1729	9492	77	107	89	61.7	69.8	58.5	70.4
47	TX8181	12	200	9	7525	1970	9495	79	110	93	60.6	69.6	60.2	70.9
48	TX8181	24	200	17	7775	1853	9628	77	108	92	60.9	69.6	60.0	71.1
Avg Across All Treatments				13	7590	1839	9429	78	108	91	61	70	59	71
37	TX9092	12	150	8	7761	3132	10893	77	107	92	59.8	68.5	58.8	71.5
38	TX9092	24	150	14	8107	2995	11102	77	106	91	60.3	69.0	60.1	71.3
45	TX9092	12	200	9	7626	3094	10720	78	107	93	58.3	68.3	59.4	71.4
46	TX9092	24	200	15	7961	2859	10820	76	106	90	59.4	68.7	57.6	70.5
Avg Across All Treatments				12	7864	3020	10884	77	106	91	59	69	59	71
35	Wells	12	150	12	7619	2191	9810	78	110	100	51.4	71.3	57.2	70.4
36	Wells	24	150	15	7659	2323	9982	77	108	98	53.0	70.5	57.5	71.3
43	Wells	12	200	10	7635	1976	9611	78	111	101	51.7	70.3	55.0	70.1
44	Wells	24	200	17	8047	2275	10322	77	109	100	54.7	69.9	55.0	69.8
Avg Across All Treatments				14	7740	2191	9931	77	109	100	53	70	56	70
1	XL-7	9	150	7	7964	2687	10650	75	106	114	49.5	68.6	46.7	66.8
11	XL-7	9	180	9	7599	2312	9911	76	109	118	49.7	68.4	46.9	66.6
Avg Across All Treatments				10	7781	2499	10281	76	107	116	50	69	50	68
25	XL-8	9	150	8	8324	2303	10627	78	111	107	47.5	67.7	54.0	70.0
31	XL-8	9	180	6	8213	2243	10456	79	113	106	43.8	67.0	56.1	71.0
Avg Across All Treatments				8	8269	2273	10542	79	112	106	46	67	53	70
2	XP-710	9	150	8	8798	1560	10358	84	117	113	43.5	66.4	52.9	69.5
12	XP-710	9	180	8	8047	1650	9697	84	120	113	47.4	66.6	50.5	68.7
Avg Across All Treatments				8	8422	1605	10027	84	118	113	45	66	52	69

Appendix Table B: Variety Screening @ Beaumont 2002 Jefferson

Variety	Treatment Number	Desired Population	N Rate	Rep	Plants/ Sq.Ft.	M.C. Yield Lbs/ac 12% M.	Ratoon Yield Lbs/ac 12% M.	Total Yield Lbs/ac 12% M.	Bu. Wt. lbs / bu	M.C. % Whole	M.C. % Total	R.C. % Whole	R.C. % Total	M.C. Days to Emergence	M.C. Days to PD	M.C. Days to Head	M.C. Days to Mat	M.C. Plant Ht. (cm)
Jefferson	1	12	170	1	13	0	0	0	42.5	0	0	0	0	0	0	0	0	84
Jefferson	1	12	170	2	13	0	0	0	42.5	0	0	0	0	0	0	0	0	87
Jefferson	1	12	170	3	13	0	0	0	42.4	0	0	0	0	0	0	0	0	85
Jefferson	1	12	170	4	13	0	0	0	41.8	0	0			0	0	0	0	84
Avg.					13	0	0	0	42.3	0	0	0	0	0	0	0	0	85
Jefferson	2	24	170	1	22	0	0	0	41.4	0	0	0	0	0	0	0	0	83
Jefferson	2	24	170	2	22	0	0	0	41.5	0	0	0	0	0	0	0	0	82
Jefferson	2	24	170	3	22	0	0	0	42.7	0	0	0	0	0	0	0	0	80
Jefferson	2	24	170	4	22	0	0	0	42.5	0	0			0	0	0	0	80
Avg.					22	0	0	0	42.025	0	0	0	0	0	0	0	0	81
Jefferson	3	12	220	1	13	0	0	0	42.1	0	0	0	0	0	0	0	0	86
Jefferson	3	12	220	2	13	0	0	0	41.5	0	0	0	0	0	0	0	0	89
Jefferson	3	12	220	3	13	0	0	0	41.0	0	0	0	0	0	0	0	0	85
Jefferson	3	12	220	4	13	0	0	0	41.6	0	0			0	0	0	0	87
Avg.					13	0	0	0	41.55	0	0	0	0	0	0	0	0	87
Jefferson	4	24	220	1	22	0	0	0	41.3	0	0	0	0	0	0	0	0	85
Jefferson	4	24	220	2	22	0	0	0	41.6	0	0	0	0	0	0	0	0	85
Jefferson	4	24	220	3	22	0	0	0	42.0	0	0	0	0	0	0	0	0	85
Jefferson	4	24	220	4	22	0	0	0	41.0	0	0			0	0	0	0	87
Avg.					22	0	0	0	41.475	0	0	0	0	0	0	0	0	86
Avg. Across All Treatments						0	0	0	42	0	0	0	0	0	0	0	0	85

Appendix Table B: continued

Variety Screening @ Beaumont 2002 Saber

Variety	Treatment Number	Desired Population	N Rate	Rep	Plants/ Sq.Ft.	M.C. Yield Lbs/ac 12% M.	Ratoon Yield Lbs/ac 12% M.	Total Yield Lbs/ac 12% M.	Bu. Wt. lbs / bu	M.C. % Whole	M.C. % Total	R.C. % Whole	R.C. % Total	M.C. Days to Emergence	M.C. Days to PD	M.C. Days to Head	M.C. Days to Mat	M.C. Plant Ht. (cm)
Saber	1	12	170	1	10	0	0	0	43.4	0	0	0	0	0	0	0	0	101
Saber	1	12	170	2	10	0	0	0	43.8	0	0	0	0	0	0	0	0	99
Saber	1	12	170	3	10	0	0	0	43.6	0	0	0	0	0	0	0	0	95
Saber	1	12	170	4	10	0	0	0	43.7	0	0			0	0	0	0	100
Avg.					10	0	0	0	44	0	0	0	0	0	0	0	0	99
Saber	2	24	170	1	24	0	0	0	41.6	0	0	0	0	0	0	0	0	98
Saber	2	24	170	2	24	0	0	0	44.1	0	0	0	0	0	0	0	0	98
Saber	2	24	170	3	24	0	0	0	43.7	0	0	0	0	0	0	0	0	98
Saber	2	24	170	4	24	0	0	0	41.2	0	0			0	0	0	0	98
Avg.					24	0	0	0	43	0	0	0	0	0	0	0	0	98
Saber	3	12	220	1	10	0	0	0	42.9	0	0	0	0	0	0	0	0	104
Saber	3	12	220	2	10	0	0	0	43.5	0	0	0	0	0	0	0	0	106
Saber	3	12	220	3	10	0	0	0	42.6	0	0	0	0	0	0	0	0	103
Saber	3	12	220	4	10	0	0	0	44.2	0	0			0	0	0	0	104
Avg.					10	0	0	0	43	0	0	0	0	0	0	0	0	104
Saber	4	24	220	1	24	0	0	0	42.6	0	0	0	0	0	0	0	0	102
Saber	4	24	220	2	24	0	0	0	40.9	0	0	0	0	0	0	0	0	102
Saber	4	24	220	3	24	0	0	0	42.8	0	0	0	0	0	0	0	0	100
Saber	4	24	220	4	24	0	0	0	41.7	0	0			0	0	0	0	103
Avg.					24	0	0	0	42	0	0	0	0	0	0	0	0	102
Avg. Across All Treatments						0	0	0	43	0	0	0	0	0	0	0	0	101

Appendix Table B: continued

Variety Screening @ Beaumont 2002 CL 121

Variety	Treatment Number	Desired Population	N Rate	Rep	Plants/ Sq.Ft.	M.C. Yield Lbs/ac 12% M.	Ratoon Yield Lbs/ac 12% M.	Total Yield Lbs/ac 12% M.	Bu. Wt. lbs / bu	M.C. % Whole	M.C. % Total	R.C. % Whole	R.C. % Total	M.C. Days to Emergence	M.C. Days to PD	M.C. Days to Head	M.C. Days to Mat	M.C. Plant Ht. (cm)
CL 121	1	12	170	1	12	0	0	0	44	0	0	0	0	0	0	0	0	94
CL 121	1	12	170	2	12	0	0	0	43.6	0	0	0	0	0	0	0	0	85
CL 121	1	12	170	3	12	0	0	0	45.6	0	0	0	0	0	0	0	0	88
CL 121	1	12	170	4	12	0	0	0	43.8	0	0			0	0	0	0	90
Avg.					12	0	0	0	44	0	0	0	0	0	0	0	0	89
CL 121	2	24	170	1	21	0	0	0	44.1	0	0	0	0	0	0	0	0	85
CL 121	2	24	170	2	21	0	0	0	43.8	0	0	0	0	0	0	0	0	85
CL 121	2	24	170	3	21	0	0	0	44.4	0	0	0	0	0	0	0	0	84
CL 121	2	24	170	4	21	0	0	0	43.2	0	0			0	0	0	0	82
Avg.					21	0	0	0	44	0	0	0	0	0	0	0	0	84
CL 121	3	12	220	1	12	0	0	0	43.4	0	0	0	0	0	0	0	0	90
CL 121	3	12	220	2	12	0	0	0	41.6	0	0	0	0	0	0	0	0	92
CL 121	3	12	220	3	12	0	0	0	41.9	0	0	0	0	0	0	0	0	90
CL 121	3	12	220	4	12	0	0	0	43.2	0	0			0	0	0	0	90
Avg.					12	0	0	0	43	0	0	0	0	0	0	0	0	91
CL 121	4	24	220	1	21	0	0	0	43.5	0	0	0	0	0	0	0	0	90
CL 121	4	24	220	2	21	0	0	0	42.9	0	0	0	0	0	0	0	0	89
CL 121	4	24	220	3	21	0	0	0	43.0	0	0	0	0	0	0	0	0	89
CL 121	4	24	220	4	21	0	0	0	43.0	0	0			0	0	0	0	90
Avg.					21	0	0	0	43	0	0	0	0	0	0	0	0	90
Avg. Across All Treatments						0	0	0	43	0	0	0	0	0	0	0	0	88

Appendix Table B: continued

Variety Screening @ Beaumont 2002 TX 9092

Variety	Treatment Number	Desired Population	N Rate	Rep	Plants/ Sq.Ft.	M.C. Yield Lbs/ac 12% M.	Ratoon Yield Lbs/ac 12% M.	Total Yield Lbs/ac 12% M.	Bu. Wt. lbs / bu	M.C. % Whole	M.C. % Total	R.C. % Whole	R.C. % Total	M.C. Days to Emergence	M.C. Days to PD	M.C. Days to Head	M.C. Days to Mat	M.C. Plant Ht. (cm)
TX 9092	1	12	170	1	15	0	0	0	41.2	0	0	0	0	0	0	0	0	92
TX 9092	1	12	170	2	15	0	0	0	41.0	0	0	0	0	0	0	0	0	93
TX 9092	1	12	170	3	15	0	0	0	40.8	0	0	0	0	0	0	0	0	94
TX 9092	1	12	170	4	15	0	0	0	40.9	0	0			0	0	0	0	87
Avg.					15	0	0	0	41	0	0	0	0	0	0	0	0	92
TX 9092	2	24	170	1	25	0	0	0	42.4	0	0	0	0	0	0	0	0	86
TX 9092	2	24	170	2	25	0	0	0	41.3	0	0	0	0	0	0	0	0	88
TX 9092	2	24	170	3	25	0	0	0	40.5	0	0	0	0	0	0	0	0	88
TX 9092	2	24	170	4	25	0	0	0	42.0	0	0			0	0	0	0	94
Avg.					25	0	0	0	42	0	0	0	0	0	0	0	0	89
TX 9092	3	12	220	1	15	0	0	0	40.6	0	0	0	0	0	0	0	0	96
TX 9092	3	12	220	2	15	0	0	0	41.8	0	0	0	0	0	0	0	0	98
TX 9092	3	12	220	3	15	0	0	0	40.5	0	0	0	0	0	0	0	0	94
TX 9092	3	12	220	4	15	0	0	0	37.2	0	0			0	0	0	0	100
Avg.					15	0	0	0	40	0	0	0	0	0	0	0	0	97
TX 9092	4	24	220	1	25	0	0	0	40.8	0	0	0	0	0	0	0	0	91
TX 9092	4	24	220	2	25	0	0	0	41.2	0	0	0	0	0	0	0	0	93
TX 9092	4	24	220	3	25	0	0	0	42.0	0	0	0	0	0	0	0	0	93
TX 9092	4	24	220	4	25	0	0	0	39.6	0	0			0	0	0	0	96
Avg.					25	0	0	0	41	0	0	0	0	0	0	0	0	93
Avg. Across All Treatments						0	0	0	41	0	0	0	0	0	0	0	0	93

Appendix Table B: continued

Variety Screening @ Beaumont 2002 TX 8181

Variety	Treatment Number	Desired Population	N Rate	Rep	Plants/ Sq.Ft.	M.C. Yield Lbs/ac 12% M.	Ratoon Yield Lbs/ac 12% M.	Total Yield Lbs/ac 12% M.	Bu. Wt. lbs / bu	M.C. % Whole	M.C. % Total	R.C. % Whole	R.C. % Total	M.C. Days to Emergence	M.C. Days to PD	M.C. Days to Head	M.C. Days to Mat	M.C. Plant Ht. (cm)
TX 8181	1	12	170	1	17	0	0	0	43.6	0	0	0	0	0	0	0	0	92
TX 8181	1	12	170	2	17	0	0	0	44.2	0	0	0	0	0	0	0	0	94
TX 8181	1	12	170	3	17	0	0	0	42.9	0	0	0	0	0	0	0	0	97
TX 8181	1	12	170	4	17	0	0	0	43.1	0	0			0	0	0	0	96
Avg.					17	0	0	0	43	0	0	0	0	0	0	0	0	95
TX 8181	2	24	170	1	27	0	0	0	42.7	0	0	0	0	0	0	0	0	91
TX 8181	2	24	170	2	27	0	0	0	42.8	0	0	0	0	0	0	0	0	95
TX 8181	2	24	170	3	27	0	0	0	44.4	0	0	0	0	0	0	0	0	92
TX 8181	2	24	170	4	27	0	0	0	43.2	0	0			0	0	0	0	89
Avg.					27	0	0	0	43	0	0	0	0	0	0	0	0	92
TX 8181	3	12	220	1	17	0	0	0	42.7	0	0	0	0	0	0	0	0	101
TX 8181	3	12	220	2	17	0	0	0	41.8	0	0	0	0	0	0	0	0	102
TX 8181	3	12	220	3	17	0	0	0	41.8	0	0	0	0	0	0	0	0	104
TX 8181	3	12	220	4	17	0	0	0	42.0	0	0			0	0	0	0	97
Avg.					17	0	0	0	42	0	0	0	0	0	0	0	0	101
TX 8181	4	24	220	1	27	0	0	0	42.2	0	0	0	0	0	0	0	0	92
TX 8181	4	24	220	2	27	0	0	0	42.5	0	0	0	0	0	0	0	0	100
TX 8181	4	24	220	3	27	0	0	0	42.9	0	0	0	0	0	0	0	0	99
TX 8181	4	24	220	4	27	0	0	0	42.1	0	0			0	0	0	0	97
Avg.					27	0	0	0	42	0	0	0	0	0	0	0	0	97
Avg. Across All Treatments						0	0	0	43	0	0	0	0	0	0	0	0	96

Appendix Table B: continued

Variety Screening @ Beaumont 2002 CL 161

Variety	Treatment Number	Desired Population	N Rate	Rep	Plants/ Sq.Ft.	M.C. Yield Lbs/ac 12% M.	Ratoon Yield Lbs/ac 12% M.	Total Yield Lbs/ac 12% M.	Bu. Wt. lbs / bu	M.C. % Whole	M.C. % Total	R.C. % Whole	R.C. % Total	M.C. Days to Emergence	M.C. Days to PD	M.C. Days to Head	M.C. Days to Mat	M.C. Plant Ht. (cm)
CL 161	1	12	170	1	14	0	0	0	42.8	0	0	0	0	0	0	0	0	92
CL 161	1	12	170	2	14	0	0	0	43.0	0	0	0	0	0	0	0	0	100
CL 161	1	12	170	3	14	0	0	0	43.2	0	0	0	0	0	0	0	0	95
CL 161	1	12	170	4	14	0	0	0	43.2	0	0			0	0	0	0	97
Avg.					14	0	0	0	43	0	0	0	0	0	0	0	0	96
CL 161	2	24	170	1	23	0	0	0	43.7	0	0	0	0	0	0	0	0	96
CL 161	2	24	170	2	23	0	0	0	41.6	0	0	0	0	0	0	0	0	97
CL 161	2	24	170	3	23	0	0	0	43.1	0	0	0	0	0	0	0	0	95
CL 161	2	24	170	4	23	0	0	0	41.9	0	0			0	0	0	0	98
					23	0	0	0	43	0	0	0	0	0	0	0	0	97
CL 161	3	12	220	1	14	0	0	0	42.1	0	0	0	0	0	0	0	0	104
CL 161	3	12	220	2	14	0	0	0	41.4	0	0	0	0	0	0	0	0	107
CL 161	3	12	220	3	14	0	0	0	41.9	0	0	0	0	0	0	0	0	103
CL 161	3	12	220	4	14	0	0	0	41.8	0	0			0	0	0	0	103
					14	0	0	0	42	0	0	0	0	0	0	0	0	104
CL 161	4	24	220	1	23	0	0	0	42.2	0	0	0	0	0	0	0	0	102
CL 161	4	24	220	2	23	0	0	0	41.9	0	0	0	0	0	0	0	0	101
CL 161	4	24	220	3	23	0	0	0	41.3	0	0	0	0	0	0	0	0	104
CL 161	4	24	220	4	23	0	0	0	42.3	0	0			0	0	0	0	102
					23	0	0	0	42	0	0	0	0	0	0	0	0	102
Avg. Across All Treatments						0	0	0	42	0	0	0	0	0	0	0	0	100

Appendix Table B: continued

Variety Screening @ Beaumont 2002 Wells

Variety	Treatment Number	Desired Population	N Rate	Rep	Plants/ Sq.Ft.	M.C. Yield Lbs/ac 12% M.	Ratoon Yield Lbs/ac 12% M.	Total Yield Lbs/ac 12% M.	Bu. Wt. lbs / bu	M.C. % Whole	M.C. % Total	R.C. % Whole	R.C. % Total	M.C. Days to Emergence	M.C. Days to PD	M.C. Days to Head	M.C. Days to Mat	M.C. Plant Ht. (cm)
Wells	1	12	170	1	12	0	0	0	43.8	0	0	0	0	0	0	0	0	99
Wells	1	12	170	2	12	0	0	0	45.4	0	0	0	0	0	0	0	0	100
Wells	1	12	170	3	12	0	0	0	45.3	0	0	0	0	0	0	0	0	95
Wells	1	12	170	4	12	0	0	0	45.4	0	0			0	0	0	0	97
Avg.					12	0	0	0	45	0	0	0	0	0	0	0	0	98
Wells	2	24	170	1	25	0	0	0	45.1	0	0	0	0	0	0	0	0	96
Wells	2	24	170	2	25	0	0	0	45.3	0	0	0	0	0	0	0	0	96
Wells	2	24	170	3	25	0	0	0	43.9	0	0	0	0	0	0	0	0	92
Wells	2	24	170	4	25	0	0	0	44.2	0	0			0	0	0	0	94
Avg.					25	0	0	0	45	0	0	0	0	0	0	0	0	95
Wells	3	12	220	1	12	0	0	0	45.2	0	0	0	0	0	0	0	0	104
Wells	3	12	220	2	12	0	0	0	45.1	0	0	0	0	0	0	0	0	104
Wells	3	12	220	3	12	0	0	0	44.6	0	0	0	0	0	0	0	0	105
Wells	3	12	220	4	12	0	0	0	44.1	0	0			0	0	0	0	102
Avg.					12	0	0	0	45	0	0	0	0	0	0	0	0	104
Wells	4	24	220	1	25	0	0	0	43.2	0	0	0	0	0	0	0	0	99
Wells	4	24	220	2	25	0	0	0	44.9	0	0	0	0	0	0	0	0	99
Wells	4	24	220	3	25	0	0	0	44.6	0	0	0	0	0	0	0	0	104
Wells	4	24	220	4	25	0	0	0	45.2	0	0			0	0	0	0	103
Avg.					25	0	0	0	44	0	0	0	0	0	0	0	0	101
Avg. Across All Treatments						0	0	0	45	0	0	0	0	0	0	0	0	99

Appendix Table B: continued

Variety Screening @ Beaumont 2002 XP 710

Variety	Treatment Number	Desired Population	N Rate	MC Total N Rate (lbs/A)	Plants/ Sq.Ft.	M.C. Yield Lbs/ac 12% M.	Ratoon Yield Lbs/ac 12% M.	Total Yield Lbs/ac 12% M.	Bu. Wt. lbs / bu	M.C. % Whole	M.C. % Total	R.C. % Whole	R.C. % Total	M.C. Days to Emergence	M.C. Days to PD	M.C. Days to Head	M.C. Days to Mat	M.C. Plant Ht. (cm)
XP710	1	9	90	150	11	0	0	0	41.9			0	0	0	0	0	0	111
XP710	1	9	90	150	11	0	0	0	40.8	0	0	0	0	0	0	0	0	107
XP710	1	9	90	150	11	0	0	0	41.1			0	0	0	0	0	0	110
XP710	1	9	90	150	11	0	0	0	40.9	0	0			0	0	0	0	113
Avg.					11	0	0	0	41	0	0	0	0	0	0	0	0	110
XP710	2	18	90	150	19	0	0	0	40.8			0	0	0	0	0	0	113
XP710	2	18	90	150	19	0	0	0	40.8	0	0	0	0	0	0	0	0	108
XP710	2	18	90	150	19	0	0	0	40.5			0	0	0	0	0	0	106
XP710	2	18	90	150	19	0	0	0	40.7	0	0			0	0	0	0	109
Avg.					19	0	0	0	41	0	0	0	0	0	0	0	0	109
XP710	3	9	90	180	11	0	0	0	40.8			0	0	0	0	0	0	116
XP710	3	9	90	180	11	0	0	0	40.7	0	0	0	0	0	0	0	0	111
XP710	3	9	90	180	11	0	0	0	40.9			0	0	0	0	0	0	111
XP710	3	9	90	180	11	0	0	0	39.7	0	0			0	0	0	0	117
Avg.					11	0	0	0	41	0	0	0	0	0	0	0	0	114
XP710	4	18	90	180	19	0	0	0	40.4			0	0	0	0	0	0	111
XP710	4	18	90	180	19	0	0	0	40.9	0	0	0	0	0	0	0	0	109
XP710	4	18	90	180	19	0	0	0	40.7			0	0	0	0	0	0	113
XP710	4	18	90	180	19	0	0	0	40.7	0	0			0	0	0	0	115
Avg.					19	0	0	0	41	0	0	0	0	0	0	0	0	112
Avg. Across All Treatments						0	0	0	41	0	0	0	0	0	0	0	0	111

Appendix Table B: continued

Variety Screening @ Beaumont 2002 XL 8

Variety	Treatment Number	Desired Population	MC Total N Rate (lbs/A)	Rep	Plants/ Sq.Ft.	M.C. Yield Lbs/ac 12 % M.	Ratoon Yield Lbs/ac 12 % M.	Total Yield Lbs/ac 12 % M.	Bu. Wt. lbs / bu	M.C. % Whole	M.C. % Total	R.C. % Whole	R.C. % Total	M.C. Days to Emergence	M.C. Days to PD	M.C. Days to Head	M.C. Days to Mat	M.C. Plant Ht. (cm)
XL 8	1	9	150	1	10	0	0	0	40.9			0	0	0	0	0	0	97
XL 8	1	9	150	2	10	0	0	0	41.0	0	0	0	0	0	0	0	0	100
XL 8	1	9	150	3	10	0	0	0	40.7			0	0	0	0	0	0	95
XL 8	1	9	150	4	10	0	0	0	40.1	0	0			0	0	0	0	100
Avg.					10	0	0	0	41	0	0	0	0	0	0	0	0	98
XL 8	2	18	150	1	20	0	0	0	40.3			0	0	0	0	0	0	97
XL 8	2	18	150	2	20	0	0	0	40.1	0	0	0	0	0	0	0	0	96
XL 8	2	18	150	3	20	0	0	0	40.9			0	0	0	0	0	0	97
XL 8	2	18	150	4	20	0	0	0	39.8	0	0			0	0	0	0	95
Avg.					20	0	0	0	40	0	0	0	0	0	0	0	0	97
XL 8	3	9	180	1	10	0	0	0	40.3			0	0	0	0	0	0	102
XL 8	3	9	180	2	10	0	0	0	40.0	0	0	0	0	0	0	0	0	104
XL 8	3	9	180	3	10	0	0	0	39.9			0	0	0	0	0	0	104
XL 8	3	9	180	4	10	0	0	0	38.8	0	0			0	0	0	0	105
Avg.					10	0	0	0	40	0	0	0	0	0	0	0	0	104
XL 8	4	18	180	1	20	0	0	0	40.4			0	0	0	0	0	0	96
XL 8	4	18	180	2	20	0	0	0	39.9	0	0	0	0	0	0	0	0	101
XL 8	4	18	180	3	20	0	0	0	40.4			0	0	0	0	0	0	105
XL 8	4	18	180	4	20	0	0	0	40.6	0	0			0	0	0	0	102
Avg.					20	0	0	0	40	0	0	0	0	0	0	0	0	103
Avg. Across All Treatments						0	0	0	40	0	0	0	0	0	0	0	0	100

Appendix Table B: continued

Variety Screening @ Beaumont 2002 Cypress

Variety	Treatment Number	Desired Population	N Rate	Rep	Plants/ Sq.Ft.	M.C. Yield Lbs/ac 12% M.	Ratoon Yield Lbs/ac 12% M.	Total Yield Lbs/ac 12% M.	Bu. Wt. lbs / bu	M.C. % Whole	M.C. % Total	R.C. % Whole	R.C. % Total	M.C. Days to Emergence	M.C. Days to PD	M.C. Days to Head	M.C. Days to Mat	M.C. Plant Ht. (cm)
Cypress	1	12	170	1	12	0	0	0	43.2	0	0	0	0	0	0	0	0	97
Cypress	1	12	170	2	12	0	0	0	43.8	0	0	0	0	0	0	0	0	99
Cypress	1	12	170	3	12	0	0	0	43.5	0	0	0	0	0	0	0	0	93
Cypress	1	12	170	4	12	0	0	0	43.4	0	0			0	0	0	0	95
Avg.					12	0	0	0	43	0	0	0	0	0	0	0	0	96
Cypress	2	24	170	1	23	0	0	0	42.7	0	0	0	0	0	0	0	0	95
Cypress	2	24	170	2	23	0	0	0	42.9	0	0	0	0	0	0	0	0	92
Cypress	2	24	170	3	23	0	0	0	42.1	0	0	0	0	0	0	0	0	97
Cypress	2	24	170	4	23	0	0	0	43.0	0	0			0	0	0	0	96
Avg.					23	0	0	0	43	0	0	0	0	0	0	0	0	95
Cypress	3	12	220	1	12	0	0	0	42.8	0	0	0	0	0	0	0	0	97
Cypress	3	12	220	2	12	0	0	0	43.0	0	0	0	0	0	0	0	0	101
Cypress	3	12	220	3	12	0	0	0	43.0	0	0	0	0	0	0	0	0	97
Cypress	3	12	220	4	12	0	0	0	43.1	0	0			0	0	0	0	97
Avg.					12	0	0	0	43	0	0	0	0	0	0	0	0	98
Cypress	4	24	220	1	23	0	0	0	42.8	0	0	0	0	0	0	0	0	98
Cypress	4	24	220	2	23	0	0	0	41.6	0	0	0	0	0	0	0	0	95
Cypress	4	24	220	3	23	0	0	0	42.4	0	0	0	0	0	0	0	0	102
Cypress	4	24	220	4	23	0	0	0	42.1	0	0			0	0	0	0	99
Avg.					23	0	0	0	42	0	0	0	0	0	0	0	0	99
Avg. Across All Treatments						0	0	0	43	0	0	0	0	0	0	0	0	97

Appendix Table B: continued

Variety Screening @ Beaumont 2002 Cocodrie

Variety	Treatment Number	Desired Population	N Rate	Rep	Plants/ Sq.Ft.	M.C. Yield Lbs/ac 12% M.	Ratoon Yield Lbs/ac 12% M.	Total Yield Lbs/ac 12% M.	Bu. Wt. lbs / bu	M.C. % Whole	M.C. % Total	R.C. % Whole	R.C. % Total	M.C. Days to Emergence	M.C. Days to PD	M.C. Days to Head	M.C. Days to Mat	M.C. Plant Ht. (cm)
Cocodrie	1	12	170	1	14	0	0	0	42.5	0	0	0	0	0	0	0	0	98
Cocodrie	1	12	170	2	14	0	0	0	42.9	0	0	0	0	0	0	0	0	94
Cocodrie	1	12	170	3	14	0	0	0	42.5	0	0	0	0	0	0	0	0	93
Cocodrie	1	12	170	4	14	0	0	0	43.1	0	0			0	0	0	0	95
Avg.					14	0	0	0	43	0	0	0	0	0	0	0	0	95
Cocodrie	2	24	170	1	23	0	0	0	42.1	0	0	0	0	0	0	0	0	92
Cocodrie	2	24	170	2	23	0	0	0	42.8	0	0	0	0	0	0	0	0	93
Cocodrie	2	24	170	3	23	0	0	0	41.4	0	0	0	0	0	0	0	0	94
Cocodrie	2	24	170	4	23	0	0	0	42.4	0	0			0	0	0	0	92
Avg.					23	0	0	0	42	0	0	0	0	0	0	0	0	93
Cocodrie	3	12	220	1	14	0	0	0	43.3	0	0	0	0	0	0	0	0	95
Cocodrie	3	12	220	2	14	0	0	0	41.8	0	0	0	0	0	0	0	0	99
Cocodrie	3	12	220	3	14	0	0	0	41.8	0	0	0	0	0	0	0	0	100
Cocodrie	3	12	220	4	14	0	0	0	43.3	0	0			0	0	0	0	102
Avg.					14	0	0	0	43	0	0	0	0	0	0	0	0	99
Cocodrie	4	24	220	1	23	0	0	0	42.7	0	0	0	0	0	0	0	0	98
Cocodrie	4	24	220	2	23	0	0	0	41.6	0	0	0	0	0	0	0	0	95
Cocodrie	4	24	220	3	23	0	0	0	42.4	0	0	0	0	0	0	0	0	94
Cocodrie	4	24	220	4	23	0	0	0	42.3	0	0			0	0	0	0	96
Avg.					23	0	0	0	42	0	0	0	0	0	0	0	0	96
Avg. Across All Treatments						0	0	0	42	0	0	0	0	0	0	0	0	96

Appendix Table B: continued

Variety Screening @ Beaumont 2002 Francis

Variety	Treatment Number	Desired Population	N Rate	Rep	Plants/ Sq.Ft.	M.C. Yield Lbs/ac 12% M.	Ratoon Yield Lbs/ac 12% M.	Total Yield Lbs/ac 12% M.	Bu. Wt. lbs / bu	M.C. % Whole	M.C. % Total	R.C. % Whole	R.C. % Total	M.C. Days to Emergence	M.C. Days to PD	M.C. Days to Head	M.C. Days to Mat	M.C. Plant Ht. (cm)
Francis	1	12	170	1		0	0	0	44.6	0	0			0	0	0	0	103
Francis	1	12	170	2	16	0	0	0	43.9	0	0			0	0	0	0	108
Francis	1	12	170	3	13	0	0	0	44	0	0			0	0	0	0	106
Francis	1	12	170	4		0	0	0	44.1	0	0			0	0	0	0	104
Avg.					15	0	0	0	44	0	0			0	0	0	0	105
Francis	2	24	170	1		0	0	0	43.3	0	0			0	0	0	0	103
Francis	2	24	170	2	20	0	0	0	43.8	0	0			0	0	0	0	103
Francis	2	24	170	3	24	0	0	0	43.1	0	0			0	0	0	0	107
Francis	2	24	170	4		0	0	0	43.8	0	0			0	0	0	0	106
Avg.					22	0	0	0	44	0	0			0	0	0	0	105
Francis	3	12	220	1		0	0	0	42.1	0	0			0	0	0	0	105
Francis	3	12	220	2	17	0	0	0	36.1	0	0			0	0	0	0	107
Francis	3	12	220	3	10	0	0	0	42.1	0	0			0	0	0	0	106
Francis	3	12	220	4		0	0	0	43.5	0	0			0	0	0	0	110
Avg.					14	0	0	0	41	0	0			0	0	0	0	107
Francis	4	24	220	1		0	0	0	42.1	0	0			0	0	0	0	105
Francis	4	24	220	2	29	0	0	0	43.5	0	0			0	0	0	0	107
Francis	4	24	220	3	23	0	0	0	42.8	0	0			0	0	0	0	109
Francis	4	24	220	4		0	0	0	43.4	0	0			0	0	0	0	106
Avg.					26	0	0	0	43	0	0			0	0	0	0	107
Avg. Across All Treatments						0	0	0	43	0	0			0	0	0	0	106

Appendix Table B: continued

Variety Screening @ Beaumont 2002 CL 141

Variety	Treatment Number	Desired Population	N Rate	Rep	Plants/ Sq.Ft.	M.C. Yield Lbs/ac 12% M.	Ratoon Yield Lbs/ac 12% M.	Total Yield Lbs/ac 12% M.	Bu. Wt. lbs / bu	M.C. % Whole	M.C. % Total	R.C. % Whole	R.C. % Total	M.C. Days to Emergence	M.C. Days to PD	M.C. Days to Head	M.C. Days to Mat	M.C. Plant Ht. (cm)
CL 141	1	12	170	1		0	0	0	44.6	0	0	0	0	0	0	0	0	108
CL 141	1	12	170	2	11	0	0	0	44	0	0	0	0	0	0	0	0	104
CL 141	1	12	170	3	9	0	0	0	43.9	0	0	0	0	0	0	0	0	102
CL 141	1	12	170	4		0	0	0	44.2	0	0			0	0	0	0	107
Avg.					10	0	0	0	44	0	0	0	0	0	0	0	0	105
CL 141	2	24	170	1		0	0	0	43.7	0	0	0	0	0	0	0	0	101
CL 141	2	24	170	2	22	0	0	0	44.2	0	0	0	0	0	0	0	0	101
CL 141	2	24	170	3	25	0	0	0	43.5	0	0	0	0	0	0	0	0	106
CL 141	2	24	170	4		0	0	0	43.9	0	0			0	0	0	0	105
Avg.					24	0	0	0	44	0	0	0	0	0	0	0	0	103
CL 141	3	12	220	1		0	0	0	41.7	0	0	0	0	0	0	0	0	116
CL 141	3	12	220	2	12	0	0	0	43.6	0	0	0	0	0	0	0	0	110
CL 141	3	12	220	3	11	0	0	0	43.3	0	0	0	0	0	0	0	0	112
CL 141	3	12	220	4		0	0	0	42.4	0	0			0	0	0	0	114
Avg.					12	0	0	0	43	0	0	0	0	0	0	0	0	113
CL 141	4	24	220	1		0	0	0	46.2	0	0	0	0	0	0	0	0	108
CL 141	4	24	220	2	24	0	0	0	43.4	0	0	0	0	0	0	0	0	105
CL 141	4	24	220	3	23	0	0	0	45.1	0	0	0	0	0	0	0	0	107
CL 141	4	24	220	4		0	0	0	42.6	0	0			0	0	0	0	108
Avg.					24	0	0	0	44	0	0	0	0	0	0	0	0	107
Avg. Across All Treatments						0	0	0	44	0	0	0	0	0	0	0	0	107

Appendix Table B: continued

Variety Screening @ Beaumont 2002 XL 7

Variety	Treatment Number	Desired Population	MC Total N Rate (lbs/A)	Rep	Plants/ Sq.Ft.	M.C. Yield Lbs/ac 12 % M.	Ratoon Yield Lbs/ac 12 % M.	Total Yield Lbs/ac 12 % M.	Bu. Wt. lbs / bu	M.C. % Whole	M.C. % Total	R.C. % Whole	R.C. % Total	M.C. Days to Emergence	M.C. Days to PD	M.C. Days to Head	M.C. Days to Mat	M.C. Plant Ht. (cm)
XL 7	1	9	150	1		0	0	0	41.1	0	0	0	0	0	0	0	0	102
XL 7	1	9	150	2	12	0	0	0	41.2	0	0	0	0	0	0	0	0	105
XL 7	1	9	150	3	10	0	0	0	41.1	0	0	0	0	0	0	0	0	104
XL 7	1	9	150	4		0	0	0	40.9	0	0			0	0	0	0	103
Avg.					11	0	0	0	41	0	0	0	0	0	0	0	0	104
XL 7	2	18	150	1		0	0	0	40.6	0	0	0	0	0	0	0	0	100
XL 7	2	18	150	2	18	0	0	0	40.6	0	0	0	0	0	0	0	0	100
XL 7	2	18	150	3	15	0	0	0	41	0	0	0	0	0	0	0	0	101
XL 7	2	18	150	4		0	0	0	40.4	0	0			0	0	0	0	106
Avg.					17	0	0	0	41	0	0	0	0	0	0	0	0	102
XL 7	3	9	180	1		0	0	0	40.5	0	0	0	0	0	0	0	0	108
XL 7	3	9	180	2	10	0	0	0	40.8	0	0	0	0	0	0	0	0	107
XL 7	3	9	180	3	9	0	0	0	40	0	0	0	0	0	0	0	0	112
XL 7	3	9	180	4		0	0	0	40.1	0	0			0	0	0	0	103
Avg.					10	0	0	0	40	0	0	0	0	0	0	0	0	108
XL 7	4	18	180	1		0	0	0	39.9	0	0	0	0	0	0	0	0	104
XL 7	4	18	180	2	17	0	0	0	40.9	0	0	0	0	0	0	0	0	106
XL 7	4	18	180	3	17	0	0	0	40.1	0	0	0	0	0	0	0	0	108
XL 7	4	18	180	4		0	0	0	40.3	0	0			0	0	0	0	114
Avg.					17	0	0	0	40	0	0	0	0	0	0	0	0	108
Avg. Across All Treatments						0	0	0	41	0	0	0	0	0	0	0	0	105

Appendix Table C-1. Rice support prices for each variety based on grade, damage, and milling samples calculated by "Tinker" Hewitt of American Rice Growers Co-op Association - Anahuac Division
(November 1, 2002 prices)

Variety	Location and Planting Date			
	Beaumont		Eagle Lake	
	March 27	May 13	March 28	May 16*
Wells	7.23	7.29	6.81	-
Saber	7.24	6.92	7.13	-
TX8181	7.23	7.24	7.23	-
Cypress	7.45	7.18	-	-
Francis	7.23	6.65	6.87	-
CL121	7.02	6.97	7.07	-
Jefferson	7.50	6.81	7.13	-
Cocodrie	6.96	7.23	6.75	-
TX9092	7.45	7.18	7.07	-
CL161	7.18	6.86	7.18	-
CL141	7.18	6.70	6.96	-
XL7	7.07	6.55	6.65	-
XL8	7.13	6.59	6.38	-
XP710	6.48	6.54	6.27	-

*Not determined because low yields not appropriate for calculating delayed planted effects.

Appendix Table C-2. 2002 Economic Analysis for Variety Screening at Eagle Lake

Variety	Plants/ft^2	N Rate	MC Yield	MC % Whole	MC % Total	Income ($/A)@ 2002		RC Yield	RC % Whole	RC % Total	Income ($/A) @ 2002 price		
						MC Gross	MC Net				RC Gross	RC Net	RC + MC
Cocodrie	10	150	7822	56	68	527.99	-139.89	1564	59	70	105.57	53.57	-86.32
	15	150	8144	56	68	549.72	-118.15	1913	61	71	129.13	77.13	-41.02
	10	200	7787	54	66	525.62	-142.25	1527	60	70	103.07	51.07	-91.18
	21	200	7890	54	68	532.58	-135.30	1627	61	71	109.82	57.82	-77.47
	14		7911	55	67	533.98	-133.89	1658	60	70	111.90	59.90	-74.00
Jefferson	11	150	7239	61	70	516.14	-151.73	1386	49	64	98.82	46.82	-104.91
	17	150	7647	60	70	545.23	-122.64	2057	50	66	146.66	94.66	-27.97
	8	200	7605	60	69	542.24	-125.63	1327	51	66	94.62	42.62	-83.02
	17	200	7906	59	69	563.70	-104.17	1691	51	66	120.57	68.57	-35.60
	13		7599	60	69	541.83	-126.04	1615	50	65	115.17	63.17	-62.88
XL 8													
	8	150	8324	48	68	531.07	-179.93	2303	54	70	146.93	94.93	-85.00
	6	180	8213	44	67	523.99	-187.01	2243	56	71	143.10	91.10	-95.91
	7		8269	46	67	527.53	-183.47	2273	55	71	145.02	93.02	-90.45
XL 7													
	7	150	7964	50	69	529.61	-169.39	2687	47	67	178.69	126.69	-42.71
	9	180	7599	50	68	505.33	-193.67	2312	47	67	153.75	101.75	-91.92
	8		7782	50	69	517.47	-181.53	2500	47	67	166.22	114.22	-67.31
XP 710													
	8	150	8798	44	66	551.63	-159.37	1560	53	70	97.81	45.81	-113.55
	8	180	8047	47	67	504.55	-206.45	1650	51	69	103.46	51.46	-155.00
	8		8423	45	67	528.09	-182.91	1605	52	69	100.63	48.63	-134.28
CL 121	14	150	6972	60	70	492.92	-174.95	1201	36	64	84.91	32.91	-142.04
	22	150	6960	58	69	492.07	-175.80	992	48	63	70.13	18.13	-157.66
	10	200	7102	58	68	502.11	-165.76	790	50	63	55.85	3.85	-161.91
	19	200	7003	59	69	495.11	-172.76	745	47	63	52.67	0.67	-172.09
	16		7009	59	69	495.55	-172.32	932	45	63	65.89	13.89	-158.42
CL 141	13	150	6879	57	69	486.35	-181.52	1076	50	64	76.07	24.07	-157.45
	18	150	6924	59	69	489.53	-178.34	1217	47	65	86.04	34.04	-144.30
	13	200	6832	58	68	483.02	-184.85	1036	49	64	73.25	21.25	-163.60
	18	200	6884	59	68	486.70	-181.17	1110	48	65	78.48	26.48	-154.69
	16		6880	58	68	486.40	-181.47	1110	48	64	78.46	26.46	-155.01

Appendix Table C-2. 2002 Economic Analysis for Variety Screening at Eagle Lake

Variety	Plants/ft^2	N Rate	MC Yield	MC % Whole	MC % Total	Income ($/A)@ 2002 MC Gross	MC Net	RC Yield	RC % Whole	RC % Total	Income ($/A) @ 2002 price RC Gross	RC Net	RC + MC
CL 161	10	150	7575	60	70	543.89	-123.99	1447	58	70	103.89	51.89	-72.09
	16	150	7767	61	70	557.67	-110.20	1465	59	71	105.19	53.19	-57.01
	8	200	7522	59	70	540.08	-127.79	1788	59	71	128.38	76.38	-51.41
	17	200	7737	60	69	555.52	-112.35	1725	60	71	123.86	71.86	-40.50
	13		7650	60	70	549.29	-118.58	1606	59	70	115.33	63.33	-55.25
Saber	8	150	6174	61	67	440.21	-227.66	1555	51	66	110.87	58.87	-168.79
	19	150	6627	61	67	472.51	-195.36	2229	52	65	158.93	106.93	-88.44
	10	200	6767	63	67	482.49	-185.38	1939	48	65	138.25	86.25	-99.13
	15	200	6919	62	67	493.32	-174.55	1661	50	65	118.43	66.43	-108.12
	13		6622	62	67	472.13	-195.74	1846	50	65	131.62	79.62	-116.12
Francis	8	150	7114	54	69	480.20	-187.68	505	51	67	34.09	-17.91	-205.59
	14	150	7573	54	70	511.18	-156.69	561	53	67	37.87	-14.13	-170.83
	9	200	6973	53	68	470.68	-197.19	645	52	67	43.54	-8.46	-205.66
	15	200	7448	53	68	502.74	-165.13	949	56	70	64.06	12.06	-153.07
	12		7277	53	69	491.20	-176.67	665	53	68	44.89	-7.11	-183.79
Wells	12	150	7619	51	71	518.85	-149.02	2191	57	70	149.21	97.21	-51.81
	15	150	7659	53	71	521.58	-146.29	2323	58	71	167.95	115.95	-30.34
	10	200	7635	52	70	519.94	-147.93	1976	55	70	142.86	90.86	-57.06
	17	200	8047	55	70	548.00	-119.87	2275	55	70	164.48	112.48	-7.39
	14		7740	53	71	527.09	-140.78	2191	56	70	156.13	104.13	-36.65
TX 9092	8	150	7761	60	69	548.70	-119.17	3132	59	72	221.43	169.43	50.27
	14	150	8107	60	69	573.16	-94.71	2995	60	71	211.75	159.75	65.04
	9	200	7626	58	68	539.16	-128.71	3094	59	71	218.75	166.75	38.03
	15	200	7961	59	69	562.84	-105.03	2859	58	71	202.13	150.13	45.10
	12		7864	59	69	556	-112	3020	59	71	213.51	161.51	49.61
TX 8181	10	150	7298	61	69	527.65	-140.22	1802	59	70	130.28	78.28	-61.94
	17	150	7763	62	70	561.26	-106.61	1729	59	70	125.01	73.01	-33.60
	9	200	7525	61	70	544.06	-123.81	1970	60	71	142.43	90.43	-33.38
	17	200	7775	61	70	562.13	-105.74	1853	60	71	133.97	81.97	-23.77
	13		7590	61	70	548.78	-119.09	1839	59	71	132.92	80.92	-38.17

Appendix Table C-3. 2002 Economic Analysis for Variety Screening at Beaumont

Variety	Plants/ft^2	N Rate	MC Yield	MC % Whole	MC % Total	Income ($/A)@ 2002 MC Gross	Income ($/A)@ 2002 MC Net	RC Yield	RC % Whole	RC % Total	Income ($/A) @ 2002 price RC Gross	Income ($/A) @ 2002 price RC Net	Income ($/A) @ 2002 price RC + MC
Cocodrie	14	170	8367	59	68	582.34	13.52	1709	57	65	118.95	66.95	80.47
	23	170	8623	56	67	600.16	31.34	1571	58	66	109.34	57.34	88.68
	14	220	8382	59	69	583.39	14.57	1585	55	64	110.32	58.32	72.88
	23	220	8750	58	68	609.00	40.18	1688	56	65	117.48	65.48	105.66
	19		8531	58	68	593.72	24.90	1638	57	65	114.02	62.02	86.92
Jefferson	13	170	7637	65	71	572.78	3.96	2335	52	64	175.13	123.13	127.08
	22	170	7726	65	71	579.45	10.63	2407	49	62	180.53	128.53	139.16
	13	220	8147	65	71	611.03	42.20	2252	50	62	168.90	116.90	159.11
	22	220	8171	64	71	612.83	44.00	2417	51	64	181.28	129.28	173.28
	18		7920	65	71	594.02	25.20	2353	51	63	176.46	124.46	149.66
XL 8	10	150	7957	60	70	567.33	-49.49	3678	57	66	262.24	210.24	160.76
	20	150	8688	55	69	619.45	2.63	3671	59	68	261.74	209.74	212.38
	10	180	8026	60	71	572.25	-44.57	3560	56	66	253.83	201.83	157.26
	20	180	8918	58	70	635.85	19.03	3832	57	67	273.22	221.22	240.26
	15		8397	58	70	598.72	-18.10	3685	57	67	262.76	210.76	192.66
XL 7	11	150	7664	59	71	541.84	-62.68	3162	49	64	223.55	171.55	108.88
	17	150	8253	58	71	583.49	-21.03	3148	50	66	222.56	170.56	149.53
	10	180	8214	59	70	580.73	-23.79	3268	47	64	231.05	179.05	155.26
	17	180	8421	57	71	595.36	-9.16	3020	48	64	213.51	161.51	152.36
	14		8138	58	71	575.36	-29.16	3150	49	65	222.67	170.67	141.51
XP 710	11	150	10119	50	69	655.71	38.89	3428	48	64	222.13	170.13	209.03
	19	150	10913	50	68	707.16	90.34	3149	51	63	204.06	152.06	242.40
	11	180	10241	47	68	663.62	46.80	3466	47	65	224.60	172.60	219.39
	19	180	10859	48	68	703.66	86.84	2921	45	62	189.28	137.28	224.12
	15		10533	49	68	682.54	65.72	3241	48	64	210.02	158.02	223.74
CL 121	12	170	6877	60	68	482.77	-86.05	1594	49	61	111.90	59.90	-26.16
	21	170	6818	60	68	478.62	-90.20	1427	49	60	100.18	48.18	-42.02
	12	220	6902	59	67	484.52	-84.30	1573	50	61	110.42	58.42	-25.88
	21	220	6985	58	67	490.35	-78.47	1445	49	61	101.44	49.44	-29.03
	17		6896	59	68	484.06	-84.76	1510	49	61	105.98	53.98	-30.77
CL 141	10	170	6615	63	69	474.96	-141.86	2461	59	65	172.76	120.76	-21.10
	24	170	7525	60	68	540.30	-76.53	2372	58	65	170.31	118.31	41.78
	12	220	7025	62	70	504.40	-112.43	2219	57	62	159.32	107.32	-5.10
	24	220	7521	60	68	540.01	-76.81	2086	53	65	149.77	97.77	20.96
	18		7172	61	69	514.91	-101.91	2285	57	64	163.04	111.04	9.14

Appendix Table C-3. 2002 Economic Analysis for Variety Screening at Beaumont

Variety	Plants/ft^2	N Rate	MC Yield	MC % Whole	MC % Total	Income ($/A)@ 2002 MC Gross	Income ($/A)@ 2002 MC Net	RC Yield	RC % Whole	RC % Total	Income ($/A) @ 2002 price RC Gross	Income ($/A) @ 2002 price RC Net	Income ($/A) @ 2002 price RC + MC
CL 161	14	170	7392	62	70	530.75	-86.07	1766	58	64	126.80	74.80	-11.28
	23	170	7714	62	70	553.87	-62.95	1664	59	65	119.48	67.48	4.52
	14	220	7698	59	68	552.72	-64.10	1584	59	65	113.73	61.73	-2.37
	23	220	8020	62	70	575.84	-40.98	1673	59	65	120.12	68.12	27.14
	19		7706	61	70	553.29	-63.53	1672	59	65	120.03	68.03	4.50
Saber	10	170	6128	65	68	443.67	-125.15	2944	51	61	213.15	161.15	35.99
	24	170	6188	63	68	448.01	-120.81	2947	50	61	213.36	161.36	40.55
	10	220	6602	62	67	477.98	-90.84	2895	50	60	209.60	157.60	66.76
	24	220	6498	62	67	470.46	-98.36	3056	49	61	221.25	169.25	70.89
	17		6354	63	68	460.03	-108.79	2961	50	61	214.34	162.34	53.55
Francis	15	170	8829	62	70	638.34	69.52	0	0	0	0.00	0.00	69.52
	22	170	9136	61	70	660.53	91.71	0	0	0	0.00	0.00	91.71
	15	220	9094	61	71	657.50	88.68	0	0	0	0.00	0.00	88.68
	22	220	9551	61	70	690.54	121.72	0	0	0	0.00	0.00	121.72
	19		9153	61	70	661.73	92.91	0	0	0	0.00	0.00	92.91
Wells	12	170	7225	60	71	522.37	-46.45	2005	55	65	144.96	92.96	46.51
	25	170	7481	59	72	540.88	-27.94	1894	53	65	136.94	84.94	56.99
	12	220	8544	61	72	617.73	48.91	1861	55	66	134.55	82.55	131.46
	25	220	8707	60	71	629.52	60.70	1596	52	66	115.39	63.39	124.09
	19		7989	60	72	577.62	8.80	1839	54	66	132.96	80.96	89.76
TX 9092	15	170	7128	65	70	448.4	-138.6	2317	55	65	172.62	120.62	-17.98
	25	170	7238	65	70	439.63	-147.37	2524	57	66	188.04	136.04	-11.33
	15	220	7571	64	70	445.95	-141.05	2257	54	63	168.15	116.15	-24.90
	25	220	7633	64	70	436.74	-150.26	2197	58	66	163.68	111.68	-38.58
	20		7393	65	70	443	-144	2324	56	65	173.12	121.12	-23.20
TX 8181	17	170	7753	63	69	560.54	-8.28	1825	57	64	131.95	79.95	71.67
	27	170	7829	64	70	566.04	-2.78	2023	57	64	146.26	94.26	91.48
	17	220	8059	60	68	582.67	13.85	1823	57	64	131.80	79.80	93.65
	27	220	7950	62	69	574.79	5.97	1881	56	64	136.00	84.00	89.96
	22		7898	62	69	571.01	2.19	1888	57	64	136.50	84.50	86.69
Cypress	12	170	7911	66	70	589.37	20.55	1658	58	66	123.52	71.52	92.07
	23	170	8053	65	70	599.95	31.13	1507	58	67	112.27	60.27	91.40
	12	220	8422	66	70	627.44	58.62	1820	58	66	135.59	83.59	142.21
	23	220	8424	65	70	627.59	58.77	1593	57	66	118.68	66.68	125.45
	18		8203	66	70	611.09	42.27	1645	58	66	122.52	70.52	112.78

Appendix Table D. Delayed Planting at Beaumont , 2002, plants/ft^2, N rate (lbs/A) Main crop yield milling and economic analysis

			Main Crop			Income $/A		Economic Ranking
Variety	Plants/ft^2	N rate	Yield	% Whole	Total	MC Gross	MC Net	or Index
Cocodrie	25	220	5864	62	69	423.97	-144.55	3
Jefferson	27	220	5556	57	66	378.36	-190.16	4
XL7	22	180	6017	53	67	400.13	-204.39	7
XL8	18	180	7197	47	69	474.28	-142.24	2
XP710	19	180	7894	54	64	516.27	-100.25	1
CL121	27	220	4306	60	66	300.13	-268.39	11
CL141	27	220	4128	57	64	276.58	-291.94	14
CL161	28	220	4047	60	66	277.62	-290.90	13
Cypress	27	220	4791	63	67	343.99	-224.53	9
Saber	28	220	4138	60	65	286.35	-282.17	12
TX8181	32	135	5099	59	68	369.17	-199.35	5
TX9092	28	220	4405	62	68	316.28	-252.24	10
Wells	28	220	5670	63	69	356.64	-211.88	8
Francis	28	220	5512	56	64	366.55	-201.97	6