

2003 End of Year Report

Evaluating Potential

Rice Varieties

From University and Industry

Breeding Programs

Cypress
CLXL8 XP712 XP710 Cocodrie
CL161 Cheniere XL7 Jefferson
Saber
TX9092 XL8 Francis TX8181
Bengal

Submitted to:

Texas Rice Research Foundation

Attn: Mr. Des Woods, Chairman



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EXECUTIVE SUMMARY

In order to identify the best U.S. rice varieties for main and ratoon crop yield in Texas and gain insight into their management, 15 varieties were tested on clay soil at Beaumont and 13 varieties tested at Eagle Lake. Saber and Cypress varieties were omitted at Eagle Lake.

- Four entries were from Louisiana (Cocodrie, Cheniere, Cypress and Bengal - a medium grain to compare with a new medium grain hybrid).
- One entry from Arkansas (Francis).
- Four entries from Texas (Jefferson, Saber, TX8181 and TX9092).
- One entry from Horizon Ag (CL161 - a herbicide resistant variety to compare with the herbicide resistant hybrid CLXL8).
- Five hybrids from RiceTec (XL7, XL8, CLXL8, XP710 and XP712 a new medium grain hybrid).

Data summaries:

- 1) Significant findings about varieties in this year's test (page 9);
- 2) Points 1-7 starting on pages 19-21; and
- 3) Table 5-A and 5-B on pages 29 and 30.

Results from our 5 specific research objectives follow:

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/ft²

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 30% among varieties (Jefferson with 16,000 and hybrids CLXL8 and XP712 with 23,000 seed/lb). Therefore, varieties planted at the same seeding rate could produce a variance of 30% in seedlings/ft² just because of the difference in number of seed/lb. Tables 1-A and 1-B show that the varieties/lines evaluated ranged from a low of " 16,000 seed/lb for Jefferson and Bengal to a high of " 23,000 seed/lb for XP712 and CLXL8. Varieties with a medium number of seed/lb (i.e., 18,000 to 20,000) are Cocodrie, Cheniere, CL161, Cypress, XL8, XP710 and Saber. Additional information to help arrive at a desired plant population is found in Tables 1-A and 1-B showing seeding rates we used for targeted 12 or 24 seedlings/ft² and actual achieved seedlings/ft².

2) Variety effects on main and ratoon crop yield

Beaumont location
See Figures 3-A, 3-B and 3-C, pgs. 33-36

The highest average main crop yielder for the second year in a row was the new experimental hybrid XP710 averaging about 8200 lbs/A in 2003, followed by XL8 (" 8100 lbs/A), CLXL8 (" 7600 lbs/A), and XL7, Cocodrie and Cheniere tied at 7600 lbs/A. Next in order of decreasing yield were XP712 (6800 lbs/A), CL161 and Jefferson (6600 lbs/A), TX8181 (6400 lbs/A), Cypress and Francis (6200 lbs/A), Saber (5900 lbs/A) and Bengal yielding only 5300 lbs/A due to panicle blight.

EXECUTIVE SUMMARY (cont.)

The highest ratoon yielders at Beaumont were the hybrids yielding between 5000 and 3400 lbs/A. Highest average ratoon yields of conventional varieties were TX9092 (3900 lbs/A) followed by Saber (3200 lbs/A) and Bengal (3800 lbs/A). Cocodrie, Cheniere and Francis yield only 2200 lbs/A each.

Highest total crop yields (11,000 to 13,000 lbs/A) were produced by hybrids. The highest total crop yield for conventional varieties were TX9092 (10,800 lbs/A) and Cocodrie and Cheniere at " 9400 lbs/A.

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

Eagle Lake location

See Figures 4-A,4-B and 4-C, pgs. 36-38

At Eagle Lake the new experimental hybrid XP710 gave the highest main crop yield (9800 lbs/A) followed by XL8 and CLXL8 (8700 lbs/A), XP712 (8600 lbs/A) and XL7 (8100 lbs/A). Average main crop yield of conventional varieties were Cocodrie (8300 lbs/A) followed by TX9092, Francis, Jefferson and Bengal (8000 lbs/A), Cheniere (7900 lbs/A), CL161 (7700 lbs/A) and TX8181 with 7100 lbs/A.

Most ratoon yields at Eagle Lake were less than normal, with hybrids averaging about 4000 lbs/A and conventional varieties averaging only 2000 lbs/A except for Francis with 1100 lbs/A.

Maximum total yields were between 12,000 and 13,000 lbs/A for hybrids and TX9092 followed by Bengal and CL161 (10,000 lbs/A), Cocodrie (9800 lbs/A), Cheniere and Jefferson (9600 lbs/A), with TX8181 and Francis at about 9000 lbs/A.

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

Figures 3-A, 3-B, and 3-C (Beaumont) and 4-A, 4-B, and 4C (Eagle Lake) show the main and ratoon yields of each variety at the two achieved plant populations (seedlings/ft²) and two N rates shown in the figures. The desired or "targeted" seedlings/ft² 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/ft².

Beaumont location

Figures 3-A, 3-B and 3-C show that under the 2003 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) possibly because the soil N supply was lower than usual. These data illustrate that lower than recommended plant population (9 seedlings/ft² for hybrids and 15 seedlings/ft² for conventional varieties) can produce maximum yields provided the seedlings are uniformly distributed, varieties have high tillering capacity well, and field conditions do not inhibit tillering and additional N is added.

EXECUTIVE SUMMARY (cont.)

Eagle Lake location

Figures 4-A, 4-B and 4-C show that at Eagle Lake yields were significantly higher than at Beaumont even though plant population at Eagle Lake were lower than at Beaumont. The lack of uniformity in plant population (stand) likely masked clear effects of plant population and N on rice yield. These data illustrate that both low plant population and lower N rate produced maximum yields at Eagle Lake in 2003.

4) Variety effects on grain milling

Main crop milling yields for the 15 varieties planted April 1 at Beaumont (shown in Table 3) ranged from 65 to 54%. Varieties with whole grain milling greater than 60% were: Saber (65), Jefferson (63), Cocodrie, Cheniere, TX8181 and TX9092 (all with 62), XP712 (61), Bengal, CL161, XL8 and Cypress (60). Lower milling varieties were XL7 (55) followed by Francis and XP710 (54). Figures 1 and 2 follow Table 3 and illustrate the range in milling as well as lbs whole grain/acre for each entry at Beaumont and Eagle Lake.

At Eagle Lake whole grain milling yields for the 13 varieties planted March 19 ranged from 63 to 42%. Varieties milling in lower 60's were Bengal (63), CL161 (60), TX8181 (60). Varieties achieving milling yields in the 50's were XP712 (58), Cocodrie (57), Jefferson (57), Cheniere (51), and Francis (53). Whole grain less than 50% were measured in XL8 (49), CLXL8 (48), XL7 (48) and XP710 (42).

OBJECTIVE TWO

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

Beaumont location

This year delaying planting at Beaumont from April 1 to May 13 reduced main crop yields an average of only 60 lbs grain/week delay in planting. The past 4 years the delayed planting yield loss has averaged 250 lbs/week delay in planting. Varieties with highest yields when planted May 13 at Beaumont XP710 (7900 lbs/A), XL8 (7200 lbs/A), XL7 (6000 lbs/A) and Cocodrie (5900 lbs/A). See Table 3 for milling yields of delayed planted rice. The planting delay did eliminate ratoon cropping.

Eagle Lake location

Yield loss due to 8 week delay in planting at Eagle Lake was about 275 lbs grain/week delay in planting from Mar 19. Generally the highest yielding varieties under delayed planting were the hybrids. See Table 2-B for actual yields under delayed planting at Eagle Lake.

EXECUTIVE SUMMARY (cont.)

OBJECTIVE THREE

Provide a single economic rank 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 rankings () for main, ratoon and total crop yield at Beaumont:
 - 7 Main crop = XL8(1), CLXL8 (2), Cocodrie (3), and Cheniere (4)
 - 7 Ratoon crop = XP710 (1), XP712 (2), XL7 (3) and TX9092 (4)
 - 7 Total crop = XP710 (1), XP712 (2), XL7 (3) and TX9092 (4)
- At Eagle Lake, the varieties producing highest economic ranking were these:
 - 7 Main crop = Jefferson (1), Cocodrie (2), XL7 (3), and XP710 (4)
 - 7 Ratoon crop = XP712 (1), TX9092 (2), XL7 (3) and XP710 (4)
 - 7 Total crop = XP712 (1), TX9092 (2), XL7 (3) and XP710 (4)
- Economic index of each variety grown for the past 5 years is shown in Table 5-A.
- Table 4 shows that at Beaumont under April 1, 2003 conditions, the only varieties that produced positive main crop income were XP710, TX9092, XL8, CLXL8, Cheniere and Cocodrie. At the Eagle Lake March 19 planting none of the varieties produced significant main crop income but ratoon crop income provided positive total crop net income.

2) Delayed planting variety economics:

Appendix Table D-1 and D2 shows economic analysis of main crop yield under delayed planting conditions. Eight varieties produced positive main crop net income at Beaumont and only one variety at Eagle Lake. Delayed planting prevented ratoon cropping.

OBJECTIVE FOUR

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

- 1) Table 5-A 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 minus production costs for main, ratoon and total yield. Then varieties were ranked in order of decreasing net returns. The economic ranking seems to be a better variety evaluator than separate yield or milling values. Table 5-B provides additional variety characteristics such as, days from emergence to maturity for early planting, plant height in addition to strength and weakness of varieties measured in test at Beaumont and Eagle Lake.

- 2) Significant findings about varieties in this year's test.
 - a. Cocodrie's main crop economic ranking of 3 and 2 at Beaumont and Eagle Lake, respectively was the most consistent main crop ranking of all entries.
 - b. Cheniere's main crop economic rankings were similar to Cocodrie at Beaumont but significantly lower at Eagle Lake.
 - c. Cocodrie and Cheniere's ratoon crop rankings (12) and (14) were among the lowest.
 - d. Surprisingly, Jefferson's main crop economic rank (1) at Eagle Lake was higher than Cocodrie in 2003. Possibly Jefferson's early maturity safeguarded it against late season stem diseases that reduce milling of all conventional varieties maturing after Jefferson.
 - e. Francis's economic rankings were not competitive with currently grown varieties in Texas.
 - f. The hybrids tended to have the highest economics ranking for ratoon crop yield. As a result they also had the highest economic ranking for total yields because ratoon crop produced more net income than the main crop.
 - g. Comparing herbicide resistant entries CLXL8 and CL161 we found that at Beaumont, the hybrid CLXL8 had higher economic ranking than CL161 for main, ratoon and total yield. However, at Eagle Lake their economic ranking were similar.
 - h. The hybrid medium grain XP712 was superior to Bengal in most comparisons. XP712's resistance to panicle blight gave it an advantage at Beaumont. (One interesting note is that the hybrid XP712 is planted a long grain but yields a medium grain).
- 3) See pages 19-21 for comparing variety and their response to various treatments.

OBJECTIVE FIVE

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

- 1) Figures 5-A and 5-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.

The researchers thank TRRF for funding this research designed to help Texas rice farmers.

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 (planting rates) and two nitrogen rates on clay and sandy soil.

A. Methods

With help from industry and university rice breeder's, 13 long-grain and 2 medium grain rice varieties or potential varieties were selected for evaluation at Beaumont (clay soil) and 11 long-grain and 2 medium grain varieties or potential varieties were selected for evaluation at Eagle Lake (sandy soil).

The following varieties, hybrids, or experimental lines were planted on March 19 and April 1 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)

Early Maturing Group

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

- 6) CLXL8** - A herbicide resistant hybrid for red rice control (RiceTec)
- 7) CL161 - A conventional herbicide resistant variety for red rice control (Clearfield)

- 8) Francis - semidwarf with high yield main crop potential (AR)
- 9) Saber* - semidwarf with high yield main crop potential (TX)

- 10) XL8 - Hybrid with improved lodging resistance and milling (RiceTec)
- 11) XP710 - Potential higher yielding hybrid, improved lodging resistance and milling (RiceTec)
- 12) TX8181 - Potential new semidwarf long grain (TX)
- 13) TX9092 - Potential new semidwarf long grain (TX)

Medium Grain Group

- 14) XP712 - 1st potential hybrid medium grain (RiceTec)
- 15) Bengal - Standard semidwarf medium grain

* Limited space at Eagle Lake and suggestions from the TRRF resulted in dropping Cypress and Saber at Eagle Lake.

**The herbicide resistant varieties were grown with conventional herbicide application.

RESEARCH PRESENTATION (cont.)

N rates at Eagle Lake (sandy soil):

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

N rates at Beaumont (clay soil):

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

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

- 12 or 24 seedlings/ft² for semidwarf varieties.
- 9 or 18 seedlings/ft² for hybrids (XL7, XL8, CLXL8, XP710 and XP712).

Therefore, Objective One consisted of 112 treatments for both main and ratoon crops created by (2 locations) (2 plant populations) (2 N rates) and (14 variety average for each location). There were 4 replications of each of the 112 treatments.

B. Results

1) Variety effect on seed/lb, seeding rates and emerged seedlings/ft²

To provide data for rice producers, consultants and scientists trying to obtain variety specific plant populations ("stands") for individual fields, we measured seed/lb for each variety and calculated the number of seed/ft² obtained by seeding rates ranging from 40 to 140 lbs/A. We report these values on Table 1-A (page 23). In Table 1-B (page 24), we report the actual seeding rates we used for our targeted seedlings/ft² and the actual achieved seedlings/ft² 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 seedlings/ft²) by as much as 30% (i.e., Jefferson and Bengal have " 16,000 seed/lb and some hybrids have " 23,000 seed/lb). For example: if Jefferson and CLXL8 are both planted at 50 lbs/acre, there will be 19 and 27 seed/ft², respectively due to CLXL8 having up to 1.4 times more seed/lb than Jefferson. This year Jefferson and Bengal had the fewest seed/lb (" 16,000). Most varieties had between 18,000 and 20,000 seed/lb i.e., Cocodrie, Cheniere, Saber, TX8181, TX9092, CL161, Francis, XP710 and XL8. Varieties with the most seed/lb (" 23,000) were XP712 and CLXL8.

RESEARCH PRESENTATION (cont.)

Calculations used for Table 1-B

$$\text{Low seeding rate for Saber in lbs/A} = \frac{\text{Targeted seedlings/ft}^2}{\text{(Live seed/lb)}} \quad (43,560 \text{ ft}^2/\text{A})$$

$$\text{Low seeding rate for Saber in lbs/A} = \frac{12 \text{ seedlings/ft}^2}{(19914 \text{ seed/lb}) (87\% \text{ germ}) (95\%)} \quad (43,560 \text{ ft}^2/\text{A})$$

$$\text{Low seeding rate for Saber in lbs/A} = 31.7 \text{ or } 32 \text{ lbs seed/A}$$

$$\% \text{ seedlings emerged for Saber's low seeding rate} = \frac{\text{Achieved seedlings/ft}^2}{\text{Live seed planted/ft}^2} \quad (100)$$

$$\% \text{ seedlings emerged for Saber's low seeding rate} = \frac{15 \text{ seedlings/ft}^2}{\frac{(32 \text{ lbs/A}) (19,914 \text{ seed/lb}) (87\% \text{ germ})}{43,560 \text{ ft}^2/\text{A}}} \quad (100)$$

$$\% \text{ seedlings emerged for Saber's low seeding rate} = \frac{15 \text{ seedlings/ft}^2}{12.7 \text{ live seed/ft}^2} \quad (100) = 118\%$$

% seedling emergence values greater than 100% suggest that achieved population measurements were higher than average population within the plots.

2) Variety effects on main and ratoon crop yield

Beaumont location (Figure 3-A, 3B and 3-C)

The three figures on pages 33, 34 and 35 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 entry 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 8,200 lbs/A followed by XL8 (" 8100 lbs/A), CLXL8 (" 7600 lbs/A), XL7, Cocodrie and Cheniere (" 7600 lbs/A), TX9092 (6900 lbs/A), XP712 (6800 lbs/A), CL161 and Jefferson (6600 lbs/A), TX8181 (6400 lbs/A), Cypress and Francis (6200 lbs/A), Saber (5900 lbs/A) and finally Bengal with panicle blight limited yield of 5300 lbs/A.

RESEARCH PRESENTATION (cont.)

The hybrids were the highest ratoon yielders: XP710 (5000 lbs/A), XP712 (4800 lbs/A), XL7 (4300 lbs/A), CLXL8 (3600 lbs/A) and XL8 (3400 lbs/A). Highest average RC yield of conventional varieties were TX9092 (3900 lbs/A), Saber (3200 lbs/A) and Bengal (3800 lbs/A). Cocodrie, Cheniere and Francis had similar RC yields of " 2200 lbs/A.

Highest total yields (between 11,000 and 13,000 lbs/A) were produced by hybrids. The best conventional total yield varieties were TX9092 (10,800 lbs/A) and Cocodrie and Cheniere (" 9400 lbs/A).

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

Eagle Lake location (Figure 4-A, 4-B and 4-C)

The three figures on pages 36, 37 and 38 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 average main crop yields in lbs/A for the hybrids were XP710 (9800), XL8 and CLXL8 (8700), XP712 (8600) and XL7 (8100). Average main crop yields of conventional varieties were Cocodrie (8300) followed by TX9092, Francis, Jefferson and Bengal (" 8000), Cheniere (7900), CL161 (7700) and TX8181 (7100).

Average ratoon yield at Eagle Lake was approximately 4000 lbs/A for the hybrids and 2000 lbs/A for conventional varieties except for Francis' 1100 lbs/A.

Highest total yields were between 12,000 and 13,000 lbs/A for hybrids and TX9092 followed by Bengal and CL161 (10,000), Cocodrie (9800), Cheniere and Jefferson (9600), with TX8181 and Francis at about (9000).

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

Figures 3-A, 3-B, and 3-C (Beaumont) and 4-A, 4-B, and 4C (Eagle Lake) show the main and ratoon yields of each variety at the two measured plant populations (seedlings/ft²) and two N rates given in the figures. The seeding rates we used to obtain the measured seedlings/ft² are shown in Table 1-B, page 24.

■ Beaumont location

Figures 3-A, 3-B and 3-C show that under the 2003 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), possibly because the soil N supply was less than normal in 2003. These data illustrate that plant populations lower than the recommended (9 to 12 seedlings/ft² for hybrids and 15 to 20 seedlings/ft² for conventional varieties) yield well provided the seedlings are uniformly distributed, tiller well and field conditions do not inhibit plant growth or nitrogen supply to plants.

RESEARCH PRESENTATION (cont.)

■ Eagle Lake location

Figures 4-A, 4-B and 4-C show that at Eagle Lake yields were significantly higher than at Beaumont even though plant populations were lower than at Beaumont. The lack of uniformity in plant population (stand) likely masked clear effects of plant population and N fertilizer on rice yield. These data illustrate that frequently the low plant population and lower N rate shown in the figures produced maximum yields in 2003 at Eagle Lake 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.

Milling yields for the April 1 planting at Beaumont shown in Table 3 identify varieties with whole grain milling yields of 60% or greater: Saber (65), Jefferson (63), Cocodrie, Cheniere, TX8181 and TX9092 (all with 62), XP712 (61), Bengal, CL161, XL8, and Cypress (60). Lower milling entries were: XL7 (55) followed by Francis and XP710 (54). May 13 planting at Beaumont had usually high milling yields except for XL7 and XP710. See Table 3.

The whole grain milling yields at Eagle Lake were untypical and generally lower than at Beaumont ranging from 42% to 63% for the March 19 planting. Varieties milling in the low 60's were Bengal (63), CL161 (60), TX8181 (60). Varieties milling in the 50's were: XP712 (58), Cocodrie (57), Jefferson (57), Cheniere (51) and Francis (53). Varieties with whole grain milling percentage in the 40's were XL8 (49), CLXL8 (48), XL7 (48), and XP710 (42).

Figures 1 and 2 graphically show relative milling yields and also illustrate lbs whole grain/A for each variety and location.

RESEARCH PRESENTATION (cont.)

II. OBJECTIVE TWO

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

A. Methods

Varieties were planted April 1 (Beaumont) and March 19 (Eagle Lake) for Objective One and were planted again on May 14 at Eagle Lake and May 13 at Beaumont to identify highest yielding and 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 and not management would be the yield limiting factor. Rice yields were presented for each of the varieties planted early and each of the varieties planted late (see Tables 2-A and 2-B).

B. Results

1) Delayed planting effects on yield at Beaumont (Table 2-A)

Because of somewhat lower main crop yields and very high delayed planting yields at Beaumont, the 2003 yield loss due to delayed planting was relatively small. At Beaumont the 2003 six-week planting delay (April 1 to May 13) resulted in an average main crop yield loss of only 380 lbs/A for the 15 varieties. The yield loss represents about 60 lbs/A/week due to delaying planting from April 1 to May 13. Main crop yield losses due to similar planting delays in 2002, 2001 and 2000 were approximately 500, 250, and 250 lbs/A/week delay in planting, respectively. Thus the four year average yield loss due to a six week delay in planting is " 250 lbs grain/A/week delay at Beaumont. 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 15 varieties in Table 2-A show that the highest yielding entries at Beaumont were the hybrids (7900 to 7000 lbs/A) except for XL7 (6200 lbs/A). Cocodrie (6900 lbs/A) has generally been the best late planted conventional variety. Cheniere yielded 6700 lbs/A and Jefferson 6800 lbs/A. Francis' yield of 7200 lbs/A was untypical of previous years.

2) Delayed planting effects on yields at Eagle Lake (Table 2-B)

Table 2-B shows March 19 yield average for all entries at Eagle Lake was " 8300 lbs/A which decreased to 6100 lbs/A for May 14 planting resulting in an average yield loss of " 2200 lbs/A for the eight week delay in planting. This yield loss, typical for such planting delays, represent a yield loss of about 275 lbs grain/week delay in planting, similar to the 4 year average yield loss per week delay at Beaumont.

The order of decreasing yields were somewhat like Beaumont except some hybrids yielded lower, Cocodrie yielded poorly and Cheniere ranked higher than at Beaumont. Actual yields at Eagle Lake in lbs/A were as follows: XP712 (8300), CLXL8 (7000), Francis (6900), Cheniere (6700), Bengal (6600), XL8 (6500), XP710 (6235), TX9092 (5500), TX8181 (5400), Cocodrie (5300), XL7 and CL161 (5000) with Jefferson last at 4600. See Table 2-B.

RESEARCH PRESENTATION (cont.)

3) Delayed planting effects on milling

Table 3 shows milling yields as influenced by variety, location, and planting data during 2003. These data show that variety appears to have the strongest effect on milling yields. Location also affected milling yields and this year's data are unusual in that the delayed planting at Beaumont had higher milling yield than for early planting except for XL7 and XP710 which lost milling when planted under delayed planting conditions (see Table 3). At Eagle Lake, delayed planting tended to lower whole grain milling which has been the trend in previous years.

RESEARCH PRESENTATION (cont.)

III. OBJECTIVE THREE

Provide a single economic index calculated from each variety's main, ratoon and total crop yield, and price/cwt.

A. Methods

Appendix Table C-1, shows that the price of milled rice including premium ranged from \$7.11 to \$8.55/cwt based on the variety's milling and grade using Nov. 1, 2003 prices. James "Tinker" Hewitt of American Rice Growers Co-op Association, Anahuac Division calculated at these prices for us. Table 4 (page 28) shows each variety's average main, ratoon and total crop net value for the early planting date at each location. The varieties are ranked in order of decreasing net value. Their relative rank is the economic ranking.

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 2003 growing conditions at Beaumont and Eagle Lake. A variety's economic rank 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 \$216/A and \$159/A at Beaumont and Eagle Lake, respectively, while the variety main crop net income was \$19/A at Beaumont and minus \$39/A at Eagle Lake.

■ **Beaumont (clay soil)**

On the clay soil at Beaumont the five hybrids (XP710, XP712, XL7, XL8, and CLXL8) had five of the highest total crop economic indexes (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. Total crop economic rankings 7 through 15 were achieved by Cheniere, Cocodrie, TX8181, Saber, Cypress, CL161, Jefferson, Bengal and Francis, respectively.

RESEARCH PRESENTATION (cont.)

Rice farmers who do not ratoon crop will be interested in knowing that the varieties highest economic rankings for main crop were: XL8 (1), CLXL8(2), Cocodrie (3), Cheniere (4), XP710 (5) and TX9092 (6). Farmers interested in medium grain will note that main crop economic rankings for XP712 and Bengal were 9 and 15, respectively at Beaumont. A comparison of herbicide resistance show CLXL8 with a main crop rank of 2 and CL161 with a rank of 13. Cocodrie and Cheniere's rankings were 3 and 4, respectively for main crop at Beaumont.

■ Eagle Lake (sandy soil)

Under the 2003 growing conditions at Eagle Lake Table 4 shows the economic rankings for total crop yield were highest for XP712 (1), TX9092 (2), XP710 (3), with XL8 and XL7 tied at (4) because there very good ratoon yields. Main crop economic rankings were highest for Jefferson (1), Cocodrie (2), Bengal (3) and CL161 (4). Main crop rank for Cocodrie and Cheniere were 2 and 10, respectively. Medium grains XP712 and Bengal main crop ranks were 6 and 3, respectively. While CL161 and CLXL8 main crop rankings were 4 and 11, respectively.

Objective Two (delayed planting) economic analysis

Appendix Table D-1 and D-2 show delayed planting treatments, main crop yield, economic analysis and index or ranking at Beaumont and Eagle Lake. The hybrids (XL8, CLXL8, and XP712) and Cocodrie tended to perform best at Beaumont while the hybrids (XP712, CLXL8) and Cheniere performed best at Eagle Lake even though delayed suppressed yields significantly as described in Table 2-A and 2-B.

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, 2002 and 2003, which shows variety-specific traits that influence variety management and selection. The traits shown in Table 5-A and 5-B 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 5-B 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 days from emergence to various growth stages for each variety.

B. Results

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

The economic rank is a simple, relative comparison of a varieties main crop (MC), ratoon crop (RC) or total crop (TC) net returns based on yield, milling, price and production cost when all varieties are grown under similar conditions. Table 4 shows the economic ranking of all varieties grown in 2003. Table 4 shows the varieties relative economic ranking in parenthesis with (1) being the highest and (15) the lowest for 2003. Table 5-A presents the main crop, ratoon crop or total crop economic rank for each variety grown in 1999/2000/2001/2002/2003. For example, Table 5-A shows the economic rank of Cocodrie for MC yield at Eagle Lake as 1/1/4/5/2 meaning that Cocodrie's main crop economic ranking was 1 in both 1999 and 2000. The 4, 5 and 2 indicate Cocodrie's main crop economic ranking in 2001, 2002 and 2003, respectively. When a "-" appears in place of a number the dash means that the variety was not grown that year.

RESEARCH PRESENTATION (cont.)

- 2) Economic ranking comparisons helpful in making choices between varieties:
 - a) Cocodrie's main crop economic rank of (3) at Beaumont and (2) at Eagle Lake were the most consistent main crop economic ranking of all varieties tested. However, in 2002, the hybrids and TX9092 had higher total crop economic ranking because of their excellent ratoon crop yields, which provided most of the total crop's net income per acre.
 - b) Cheniere's MC economic ranking were slightly less than Cocodrie at Beaumont but significantly less at Eagle Lake.
 - c) Comparing the herbicide resistant varieties CLXL8 and CL161, reveals similar economic indexes at Eagle Lake (i.e., CLXL8 had main crop, ratoon crop and total crop ranking of 11, 5 and 6 while CL161 rankings were 4, 7 and 7, respectively). However, CLXL8 had significant higher main crop, ratoon crop and total crop economic rank of 2, 7 and 6 compared to 13, 9 and 12 for CL161 at Beaumont.
 - d) A 2003 comparison between the hybrid medium grain XP712 and Bengal we find the hybrid has the advantage at Beaumont and Eagle Lake. The main crop, ratoon crop and total crop ranking for the hybrid at Beaumont were 9, 2 and 2 compared to 13, 9 and 12 for Bengal, respectively. At Eagle Lake, main crop, ratoon crop and total crop ranking were 6, 1 and 1 for XP712 and 3, 9 and 8 for Bengal. XP712's advantage was partly due to panicle blight resistance.
- 3) 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 5-A. 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 with the other herbicide resistant variety CLXL8 estimated 36 tillers/plant. Cocodrie was the highest tillering (31 tillers) of the conventional grown varieties. Cypress produced 28 tillers/plant at crop maturity. TX8181 and TX9092 produced 27 and 20, respectively, and Wells 21 tillers/plant as shown in Table 5-A.
- 4) Due to varietal differences in seed/lb and germination, planting rates for conventional varieties ranged from 28 to 41 lbs seed/A to achieve targeted plant populations of 12 seedlings/ft². To achieve 24 seedlings/ft² planting rates ranged from 55 to 81 lbs/A. Hybrid seeding rates to achieve 9 or 18 seedlings/ft² ranged from 19 to 29 lbs seed/A and 42 to 59 seeds/A, respectively. See Table 5-A. The problem with trying to achieve the lowest plant populations is, climatic conditions negative to seedling emergence can reduce stand such that additional early N application can't compensate for low plant populations.

RESEARCH PRESENTATION (cont.)

- 5) Different N rates for different soils as showing in Table 5 can be applied in two applications (preflood and booting) for hybrids and 3 applications (preplant, preflood and PD) for conventional varieties. These N rates have not caused lodging unless stem rot is significant across the field.
- 6) Days from emergence to maturity tended to be earlier at Eagle Lake and ranged from 106 days for XL7 and Jefferson to 120 plus for XP712 and XP710. Higher plant populations, lower N rates, warm temperatures and absence of stress (i.e., herbicide burn, early flood, etc.) tend to decrease days from emergence to maturity. Figure 5-A and 5-B (pages 39-40) show planting date effects on days from emergence to heading and maturity for each variety.
- 7) The shortest variety was Jefferson (33 to 35 inches) while XL7 and XP710 were tied for tallest (41 to 45 inches). Francis's (39-42 inches) was tallest of conventional varieties reflecting its higher lodging potential.
- 8) Francis did not live up to its main crop yield history in Arkansas.

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 5-A and 5-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. Seed/pound (i.e., seed size) influence on seed/ft² at various seeding rates. The number of emerged seedlings/ft² will depend on germination rate and planting conditions and soil conditions during seedling emergence^a

Variety	Seed/lb ^b	Seeding Rate lbs/A										
		40	50	60	70	80	90	100	110	120	130	140
		Seed/ft ^{2b}										
Bengal	15624	14	18	21	25	29	32	36	39	43	47	50
Cheniere	19794	18	23	27	32	36	41	45	50	55	59	64
CL161	20045	18	23	28	32	37	41	46	51	55	60	64
CLXL8	23300	21	27	32	37	43	48	54	59	64	70	75
Cocodrie	17416	16	20	24	28	32	36	40	44	48	52	56
Cypress	18145	17	21	25	29	33	37	42	46	50	54	58
Francis	20572	19	24	28	33	38	43	47	52	57	61	66
Jefferson	16736	15	19	23	27	31	35	38	42	46	50	54
Saber	19914	18	23	27	32	37	41	46	50	55	59	64
TX8181	19145	18	22	26	31	35	40	44	48	53	57	62
TX9092	18706	17	22	26	30	34	39	43	47	52	56	61
XL7	21058	19	24	29	34	39	44	48	53	58	63	68
XL8	20500	19	24	28	33	38	42	47	52	56	61	66
XP710	19536	18	22	27	31	36	40	45	49	54	58	63
XP712	23024	21	26	32	37	42	48	53	58	63	69	74

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

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

Table 1-B. Variety and seeding rate effects on achieved population and % seedlings emerged at two locations in 2003

Variety	Desired Population (plants/sq.ft.)	% Germ	Seeding Rate Adjusted for 95% Survival (lbs/A)	Beaumont		Eagle Lake	
				Achieved Population (plants/sq.ft.)	Seedlings Emerged%	Achieved Population (plants/sq.ft.)	Seedlings Emerged%
Saber	12	87	32	15	118 ^a	NA	NA
Saber	24		64	28	110	NA	NA
TX8181	12	80	36	13	103	5	40
TX8181	24		72	21	83	9	35
TX9092	12	92	32	11	87	9	71
TX9092	24		64	22	87	13	51
Jefferson	12	91	36	12	94	10	78
Jefferson	24		72	21	83	14	55
Cocodrie	12	78	41	11	87	8	63
Cocodrie	24		81	17	66	12	47
Cheniere	12	98	28	13	104	8	64
Cheniere	24		57	23	92	12	48
Bengal	12	92	38	13	104	8	64
Bengal	24		77	23	92	12	48
CL161	12	80	34	11	88	9	72
CL161	24		68	23	92	13	52
Cypress	12	89	34	10	79	N/A	N/A
Cypress	24		68	24	95	N/A	N/A
Francis	12	97	28	14	109	10	78
Francis	24		55	24	94	16	63
XL7	9	90	22	10	105	8	83
XL7	18		44	19	99	13	68
XL8	9	96	21	11	116	7	73
XL8	18		42	22	116	10	52
CLXL8	9	84	21	12	127	7	74
CLXL8	18		42	20	106	9	47
XP710	9	72	29	8	86	7	74
XP710	18		59	16	86	9	48
XP712	9	92	19	10	108	5	54
XP712	18		38	19	103	8	43

Calculations used to determine "Seeding Rate" and % "Seedlings Emerged" are given on page 12.

^a% seedlings emerged values greater than 100% suggest that achieved population measurements were higher than average population within the plots.

Table 2-A. Delayed planting effect on main crop yield of 9 conventional varieties, 2 herbicide resistant varieties and 4 hybrids at Beaumont during 2003. Varieties listed in order of April 1 main crop yield for high N rate treatments. Numbers in () are each variety's yield ranking for the specified planting date

Variety	Main crop yields lbs/A		Yield Change
	April 1 planting	May 13 planting	
XP710	8471 (1)	7336 (4)	-1135
XL8	8189 (2)	7979 (1)	- 210
CLXL8	7969 (3)	7741 (3)	- 228
Cocodrie	7437 (4)	6956 (6)	- 481
Cheniere	7403 (5)	6706 (8)	- 697
XL7	7333 (6)	6203 (11)	-1130
XP712	7061 (7)	7882 (2)	(+ 821)
TX9092	7022 (8)	6212 (10)	- 810
Jefferson	7008 (9)	6798 (7)	- 210
CL161	6817 (10)	5776 (13)	-1041
TX8181	6677 (11)	6493 (9)	- 184
Cypress	6524 (12)	5673 (14)	- 851
Francis	6429 (13)	7253 (5)	(+ 824)
Saber	6187 (14)	5439 (15)	- 748
Bengal	5540 (15)	5879 (12)	(+ 339)
Avg. =	7071	6688	- 383

Table 2-B. Delayed planting effect on main crop yield of 7 conventional varieties, 2 herbicide resistant and 4 hybrids at Eagle Lake during 2003. Varieties listed in order of March 19 main crop yields for high N rate treatments. Numbers in () are each variety's yield ranking for the specified planting date

Variety	Main crop yields lbs/A		Change Yield
	March 19 planting	May 14 planting	
XP710	9829 (1)	6235 (7)	-3594
XL8	8714 (2)	6510 (6)	-2204
CLXL8	8707 (3)	7026 (2)	-1681
XP712	8643 (4)	8273 (1)	-370
Cocodrie	8298 (5)	5303 (10)	-2995
Jefferson	8252 (6)	4620 (13)	-3632
XL7	8140 (7)	5009 (11)	-3131
Francis	8119 (8)	6904 (3)	-1215
TX9092	8053 (9)	5496 (8)	-2557
Bengal	7989 (10)	6581 (5)	-1408
Cheniere	7874 (11)	6748 (4)	-1126
CL161	7749 (12)	4978 (12)	-2771
TX8181	7115 (13)	5353 (9)	-1762
Avg. =	8268	6080	-2188

Table 3. Milling yields as influenced by variety, location, early planting (Objective One) and delayed planting (Objective Two) during 2003

Variety	Rice milling yields = % whole grain / % total milled					
	Beaumont			Eagle Lake		
	Apr 1	May 13	Difference ^a	Mar 19	May 14 ^b	Difference ^a
Cheniere	62/71	66/72	+4	51/69	52/68	+1
Francis	54/65	60/68	+6	53/69	53/66	0
Cocodrie	62/70	64/71	+2	57/67	58/67	+1
Cypress	60/68	65/70	+5	NA	NA	NA
TX8181	62/70	67/72	+5	60/68	60/68	0
TX9092	62/71	65/70	+3	61/69	59/69	-2
Jefferson	63/71	64/70	+1	57/69	59/68	+2
Saber	65/69	65/69	0	NA	NA	NA
Bengal	60/69	65/71	+5	63/69	60/68	-3
CLXL8	58/70	61/70	+3	48/67	49/67	+1
CL161	60/68	63/69	+3	60/69	55/66	-5
XL7	55/70	44/52	-11	48/68	45/67	-3
XL8	60/71	61/70	+1	49/69	50/67	+1
XP710	54/66	53/65	-1	42/65	43/66	+1
XP712	61/67	NA ^c	NA	58/67	55/66	-3

^aDifference in % whole grain milling due to delayed planting.

^bThese 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.

^cNA = data not available.

Table 4. Summary of economic performance based on main, ratoon and total yield as well as milling and grade when planted March 19, 2003 at Eagle Lake and April 1, 2003 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 rank. 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 ^a AND ECONOMIC RANK () ^b										
Beaumont Net Value \$/A					Eagle Lake Net Value \$/A					
Variety	Main Crop	+	Ratoon Crop	= Total	Variety	Main Crop	+	Ratoon Crop	= Total	
1) XP710	\$ 28 (5)		\$ 340 (1)	\$368	1) XP712	\$ - 36 (6)		\$ 267 (1)	\$231	
2) XP712	-25 (9)		329 (2)	304	2) TX90092	- 40 (7)		266 (2)	226	
3) XL7	- 6 (8)		304 (3)	298	3) XP710	- 42 (9)		220 (4)	178	
4) TX9092	19 (6)		276 (4)	295	4) XL8	- 40 (7)		210 (6)	170	
5) XL8	62 (1)		229 (6)	291	5) XL7	- 93 (13)		263 (3)	170	
6) CLXL8	57 (2)		217 (7)	274	6) CLXL8	- 55 (11)		217 (5)	162	
7) Cheniere	39 (4)		134 (12)	173	7) CL161	- 26 (4)		137 (7)	111	
8) Cocodrie	41 (3)		129 (14)	170	8) Bengal	-18 (3)		109 (9)	90	
9) TX8181	-31 (10)		188 (9)	157	9) Jefferson	2(1)		79 (11)	81	
10) Saber	-66 (12)		217 (7)	151	10) Cocodrie	-3 (2)		74 (12)	71	
11) Cypress	-55 (11)		184 (11)	129	11) Cheniere	-54 (10)		84 (10)	30	
12) CL161	-73 (13)		201 (10)	128	12) TX8181	-82 (12)		106 (8)	24	
13) Jefferson	- 5 (7)		114 (15)	109	13) Francis	-27 (5)		43 (13)	16	
14) Bengal	-196 (15)		252 (5)	56						
15) Francis	-86 (14)		132 (13)	46						
Avg =	19	1	216	= 197	Avg =	-39	1	159	= 120	

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

^b Numbers in () indicate economic ranking for main or ratoon crops. A varieties economic rank reflects variety yield and milling for main, ratoon or total crop yield in 2003.

Table 5-A. Summary table for variety specific management with an economic ranking of each variety's main crop (MC), ratoon crop (RC) and total crop (TC) potential at two locations in 1999, 2000,2001,2002 and 2003

Variety Name and Group	1000 seed/lb ¹	Max tillers / plant ²	Seeding rates lbs/A ³	Minimum Main Crop N rate (Lbs/A) ⁴		Lodging Potential	1999/2000/2001/2002/2003 Economic ranking ⁵					
				Sand	Clay		Eagle Lake			Beaumont		
							MC	RC	TC	MC	RC	TC
True semidwarf less than 100 cm (39") tall												
Bengal (med.)	Low 16-17	NA	38 to 76	150	170	low	-/-/-/3	-/-/-/9	-/-/-/8	-/-/-/15	-/-/-/5	-/-/-/14
Cheniere	Med 19-20	est. 28	28 to 56	150	170	low	-/-/-/10	-/-/-/10	-/-/-/11	-/-/-/4	-/-/-/12	-/-/-/7
Cocodrie	Med 19-20	31	29 to 58	150	170	low	1/1/4/5/2	10/4/5/9/12	6/1/4/7/10	2/2/2/5/3	11/8/3/12/14	4/3/3/8/8
Cypress	Med 19-20	28	35 to 68	150	170	low	8/2/2/-/-	6/5/7/-/-	8/2/2/-/-	10/8/4/3/11	7/3/7/10/11	9/6/5/5/11
Dixibelle	High 20-22	19	33 to 66	150	170	very low	4/4/-/-/-	2/3/-/-/-/-	1/3/-/-/-	7/9/-/-/-	10/6/-/-/-	7/9/-/-/-
Jefferson	Low 16-17	21	38 to 75	150	200	very low	5/7/6/4/1	11/6/3/8/11	10/7/5/5/9	4/3/7/4/7	8/4/4/5/15	5/5/6/3/13
TX8181	Med 19	27	38 to 76	150	170	low	-/-/-/3/12	-/-/-/5/8	-/-/-/3/12	-/-/-/7/10	-/-/-/8/9	-/-/-/9/9
TX9092	Med 19-20	20	28 to 56	150	170	very low	-/-/-/1/7	-/-/-/1/2	-/-/-/1/2	-/-/-/14/6	-/-/-/6/4	-/-/-/13/4
Saber	High 20-21	29	28 to 56	150	170	very low	-/8/9/13/-	-/9/1/6/-	-/9/6/9/-	-/10/3/13/12	-/9/1/3/7	-/10/1/10/10
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	-/-/-/8/5	-/-/-/13/13	-/-/-/8/13	-/-/-/1/14	-/-/-/14/13	-/-/-/6/15
Hybrid varieties												
XL7	High 21-22	33	22 to 43	150	180	low	-/-/-/10/13	-/-/-/2/3	-/-/-/6/5	-/-/-/9/8	-/-/-/2/3	-/-/-/4/3
XL8	High 21-22	36	22 to 43	150	180	low	-/-/-/12/7	-/-/-/4/6	-/-/-/8/4	-/-/-/8/1	-/-/-/1/6	-/-/-/2/5
XP710	High 21-22	27	22 to 43	150	180	low	-/-/-/11/9	-/-/-/10/4	-/-/-/11/3	-/-/-/2/5	-/-/-/4/1	-/-/-/1/1
XP712(med.)	High 21-23	est. 33	19 to 38	150	180	low	-/-/-/-/6	-/-/-/-/1	-/-/-/-/1	-/-/-/-/9	-/-/-/-/2	-/-/-/-/2
Herbicide resistant rice												
CLXL8(hybrid)	High 21-23	est. 36	29 to 58	150	180	low	-/-/-/-/11	-/-/-/-/5	-/-/-/-/6	-/-/-/-/2	-/-/-/-/7	-/-/-/-/6
CL161	Med 19-20	33	34 to 68	150	170	low	-/-/-/2/4	-/-/1/7/7	-/-/-/4/7	-/-/-/10/13	-/-/-/11/10	-/-/-/12/12

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

²Tillers/plant at maturity after plants were spaced 10" apart and grown adjacent to research plots at Beaumont in 2003. Est = estimated, NA = not available.

³Seeding rates used to achieve targeted plant populations of 12 and 24 seedlings/ft² for conventional varieties and 9 to 18 seedlings/ft² for hybrids.

⁴For conventional varieties N was applied to MC at PP (30%), PF (40%) and PD (30%). Hybrids received 90 or 120 lbs of their N at preflower and 60 lbs at booting. Ratoon crop received 70 or 90 lbs N/A just prior to ratoon flood at Eagle Lake and Beaumont, respectively.

⁵The economic analysis ranking is based on the combination of yield, milling and price for MC and RC relative to other varieties grown under the same climatic conditions. (1=highest net returns/A; 15=lowest net returns). -/8/5/1/2 = The dash (-) means variety not evaluated or rank not valid in 1999, an economic ranking of 8 in 2000, 5 in 2001, 1 in 2002 and 2 in 2003.

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

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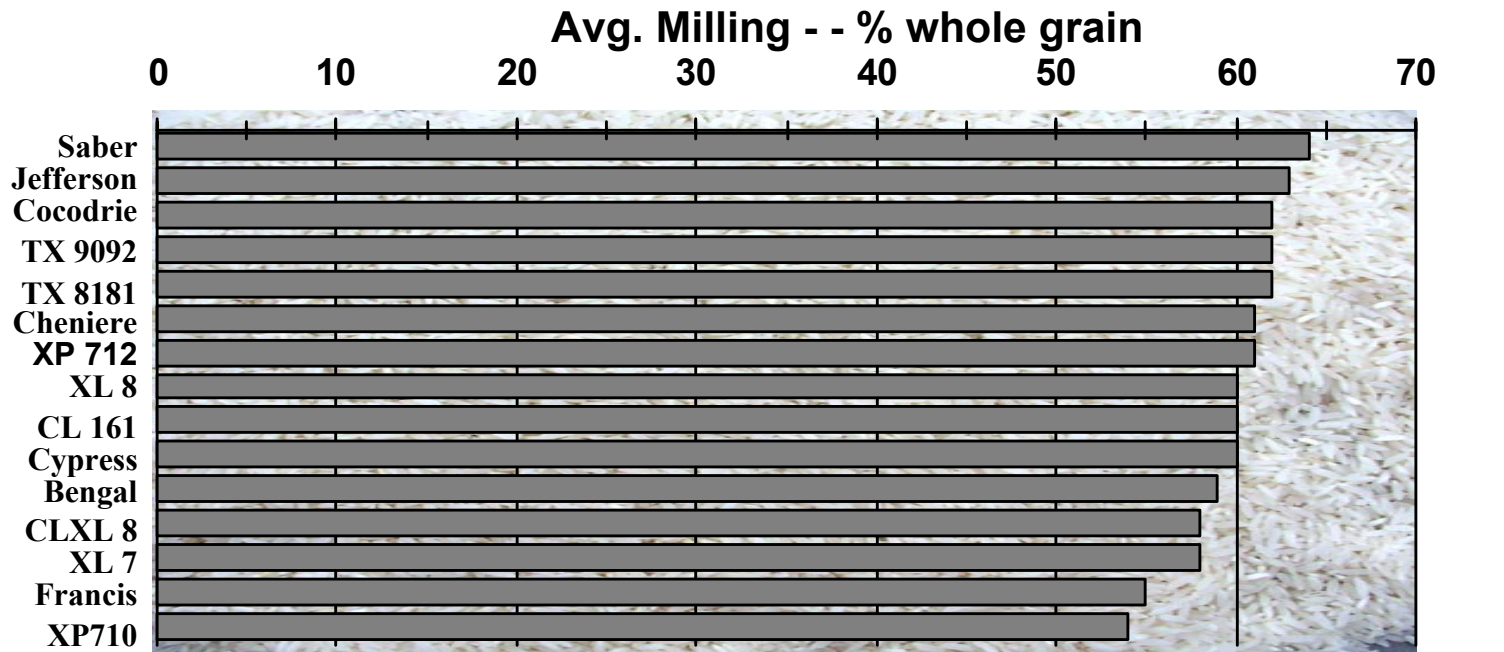
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Table 5-B. Additional information on varieties

Variety	Days from emergence for early plantings			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	
	PD	HD	Maturity*		Variety strengths	Variety weaknesses
Bengal (med.)	61	81-82	120	33-36	medium grain, seedling vigor	Panicle blight
Cheniere	63	78-86	115-119	35-36	MC ¹ similar or less than Cocodrie	RC ² yield
Cocodrie	60	76-79	111-120	36-38	MC consistency, delayed planting MC yield	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	long grain semidwarf	inconsistency
TX9092	56	77-78	106-112	36-37	Good economic index at EL ⁵ but not at BMT ⁶	tillering capacity
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, tillering capacity 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
XP712 (med.)	63	85-87	123-119	43-39	yield and resistant to panicle blight	seed cost, milling
CLXL8	63	83-87	121-110	42-43	red rice control, disease resistant	seed cost, milling
CL161	60	79-84	111-119	38-39	improved yield and herbicide resistance; red rice control	RC, seed cost

*Larger number for Beaumont, small number for Eagle Lake site. See figures 5-A and 5-B for days to maturity in 2003

Fig. 1 Milling yield and lbs. whole milled grain per acre when planted April 1 at Beaumont



Avg. yield multiplied by avg. % whole grain (lbs/A)

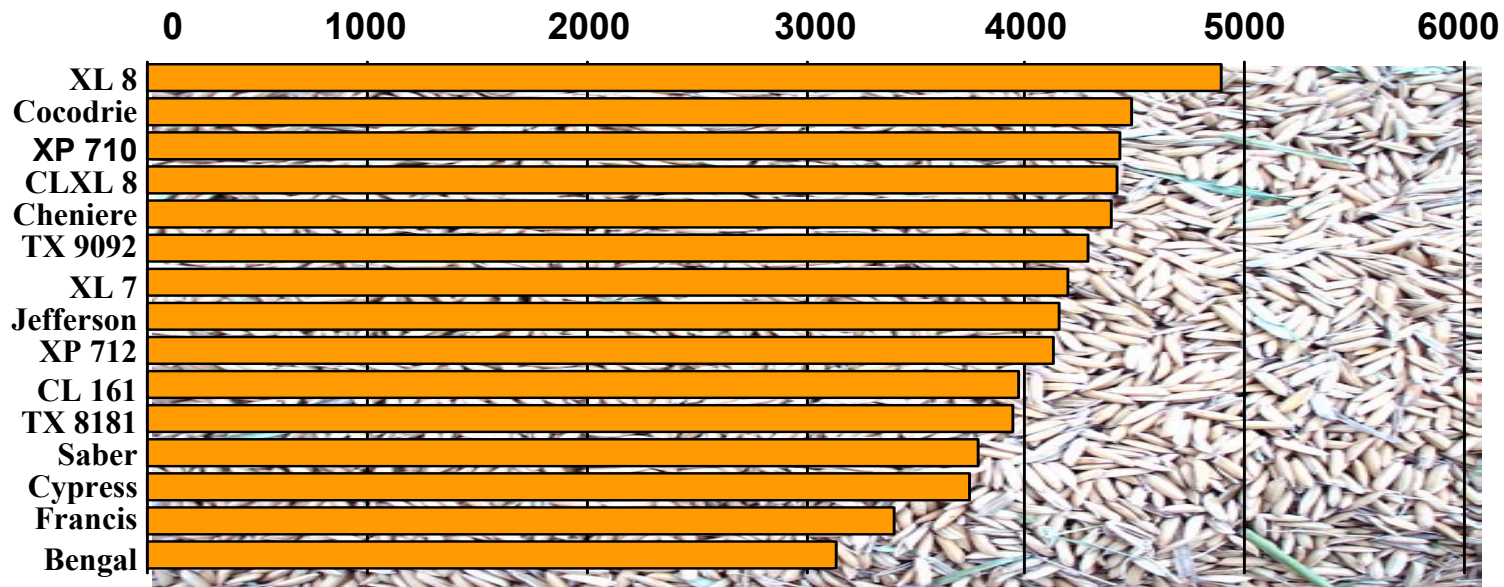


Fig. 2 Milling yield and lbs. whole milled grain per acre when planted March 19 at Eagle Lake

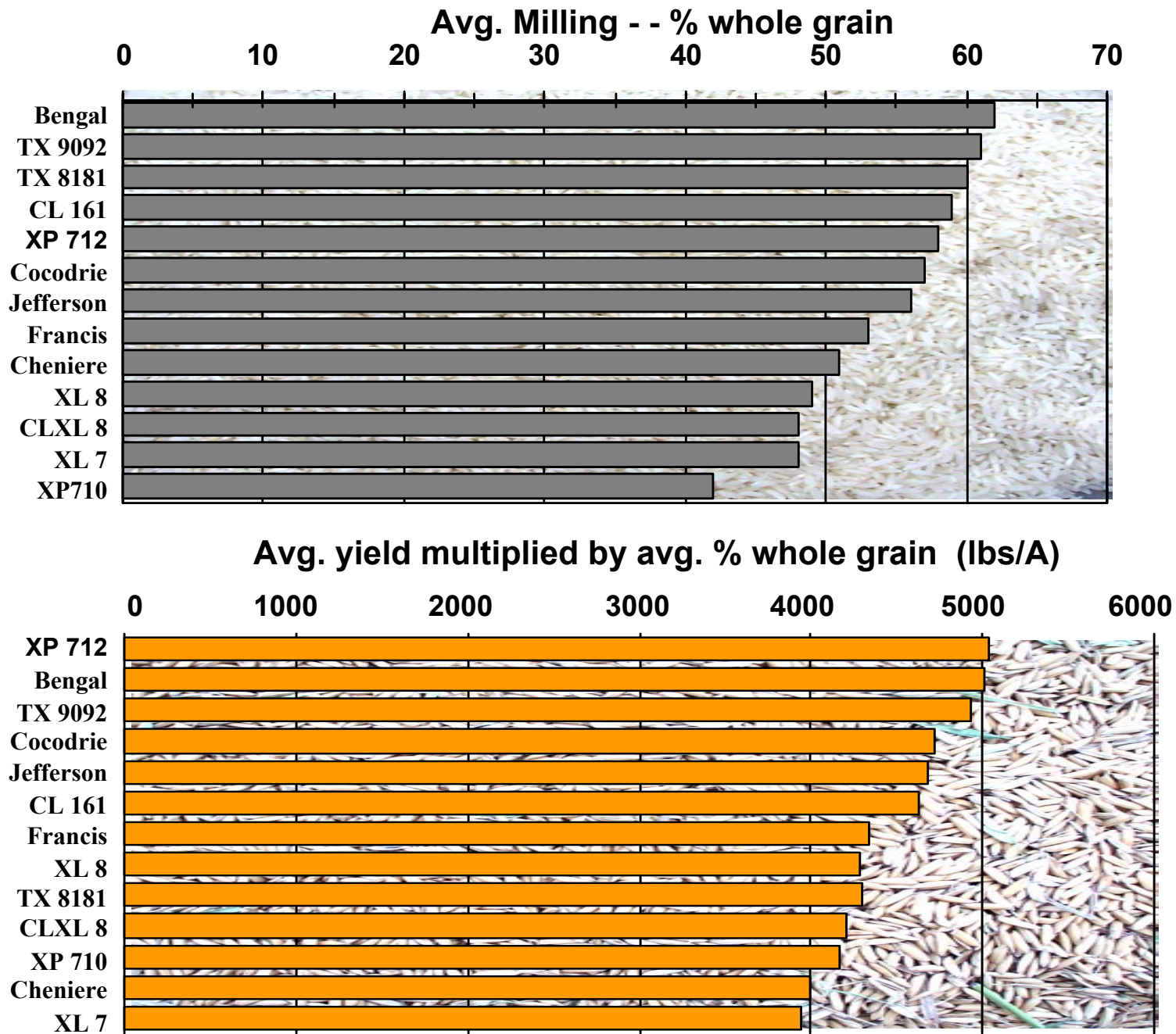
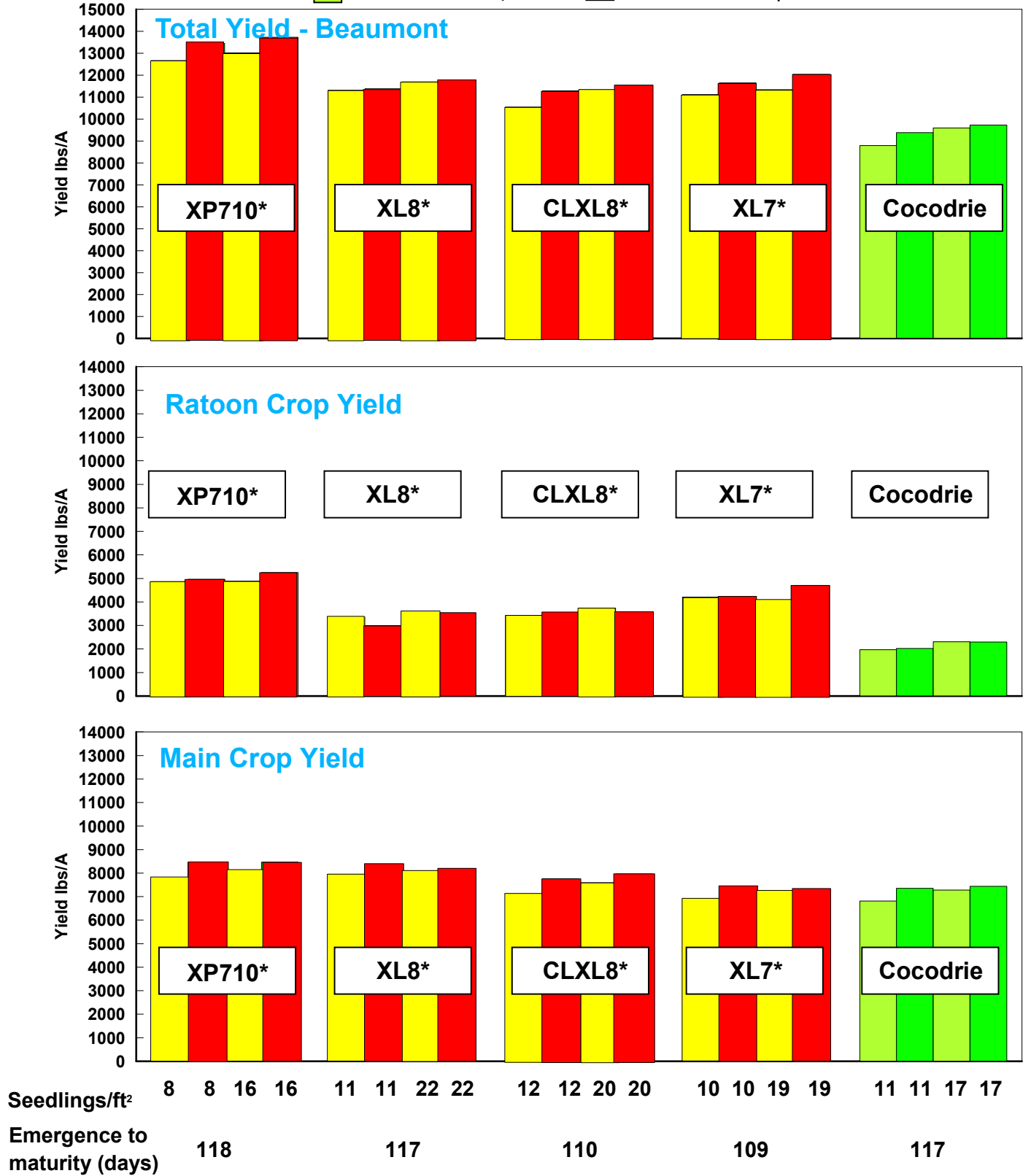


Fig. 3-A

Main and Ratoon Crop Yield Response to N Rate and Seedlings/ft² for 15 Varieties at Beaumont in 2003. Planted April 1 and Arranged in Order of Decreasing Main Crop Yield.

*XL7, XL8, CLXL8, XP710 and XP712 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

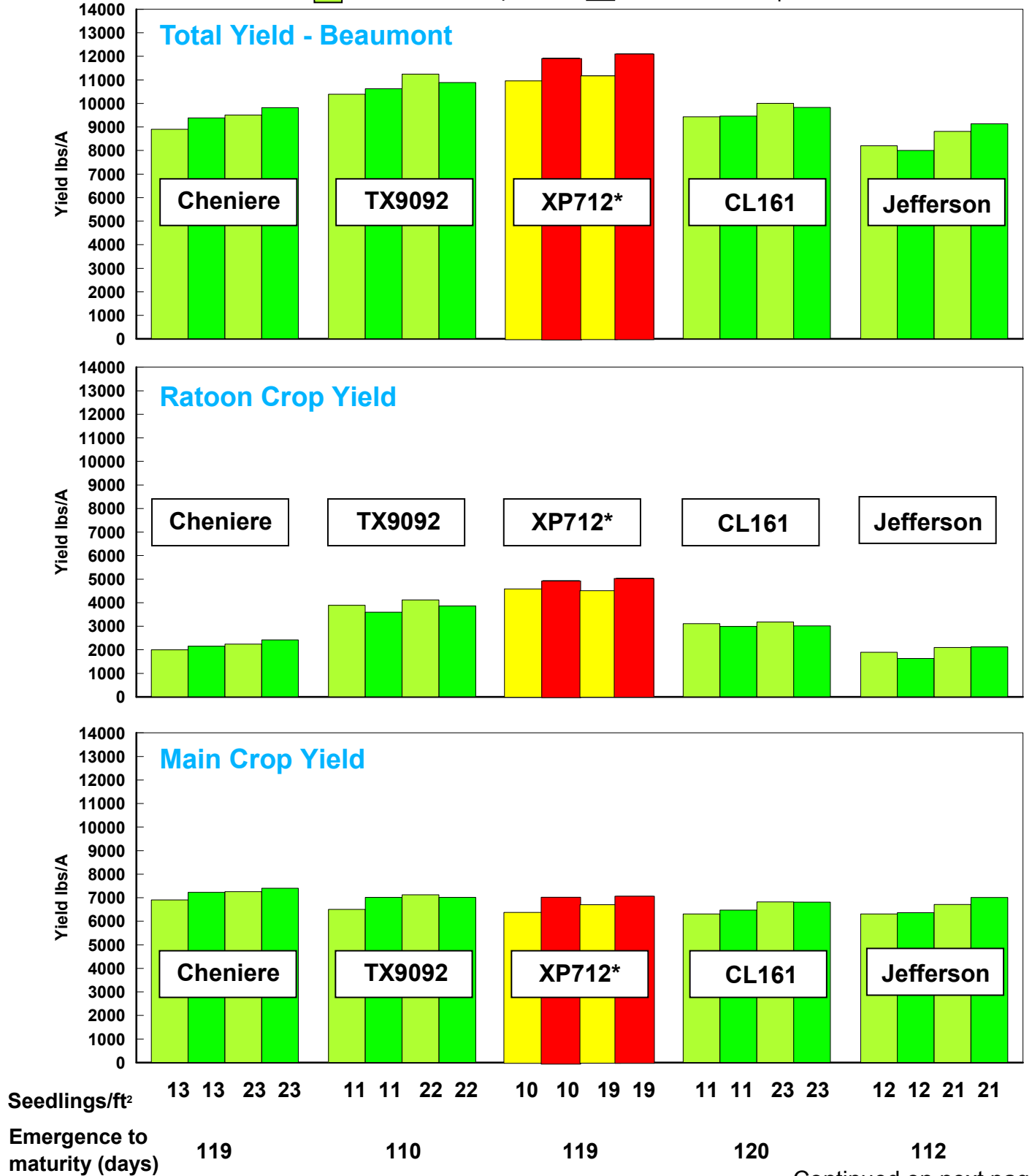


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Fig. 3-B

Main and Ratoon Crop Yield Response to N Rate and Seedlings/ft² for 15 Varieties at Beaumont in 2003. Planted April 1 and Arranged in Order of Decreasing Main Crop Yield.

*XL7, XL8, CLXL8, XP710 and XP712 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



Continued on next page

Fig. 3-C

Main and Ratoon Crop Yield Response to N Rate and Seedlings/ft² for 15 Varieties at Beaumont in 2003. Planted April 1 and Arranged in Order of Decreasing Main Crop Yield.

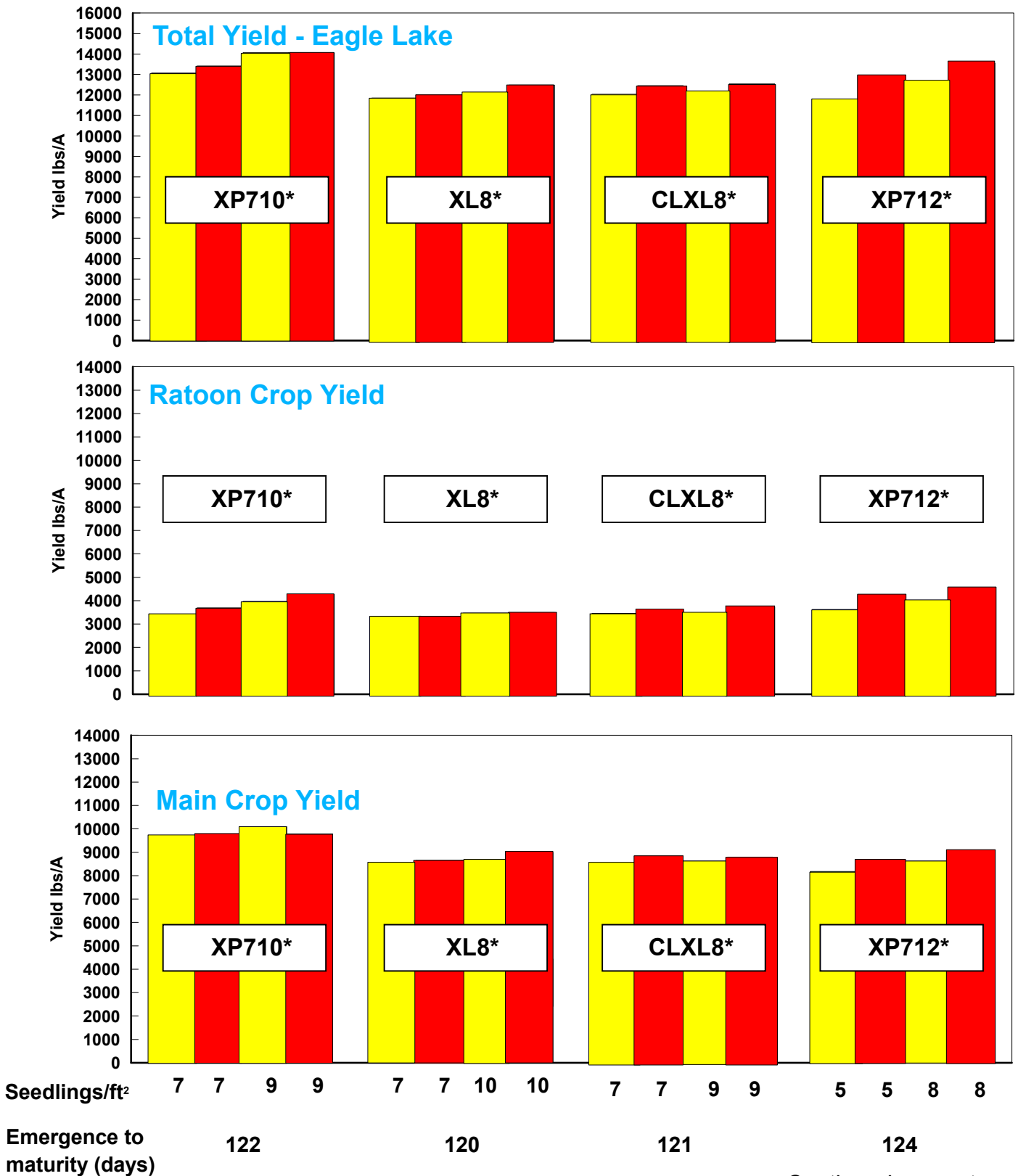


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Fig. 4-A

Main and Ratoon Crop Yield Response to N Rate and Seedlings/ft² for 13 Varieties at Eagle Lake in 2003. Planted March 19 and Arranged in Order of Decreasing Main Crop Yield.

*XL7, XL8, CLXL8, XP710 and XP712 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

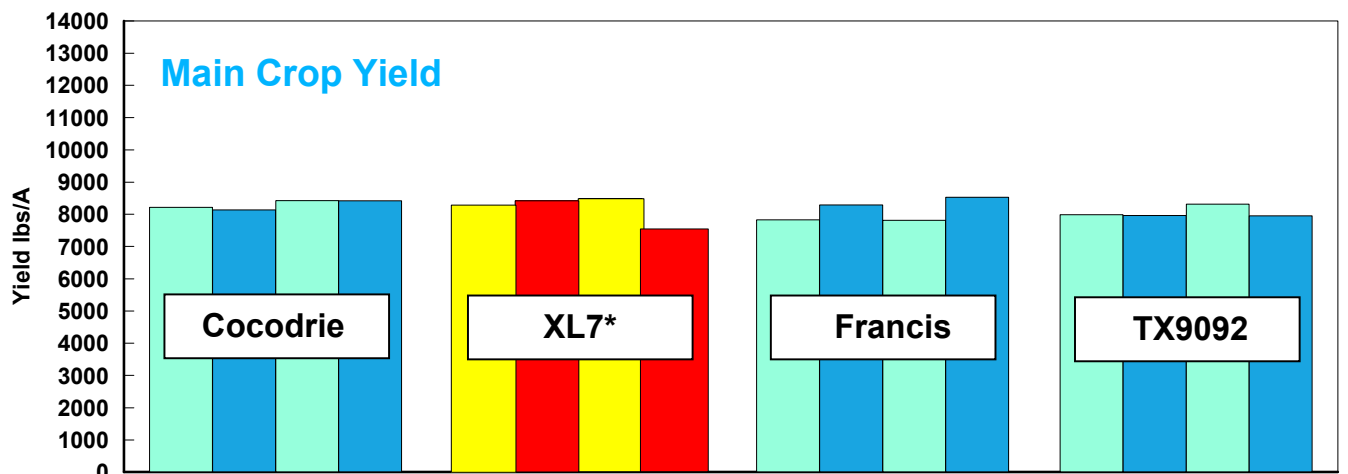
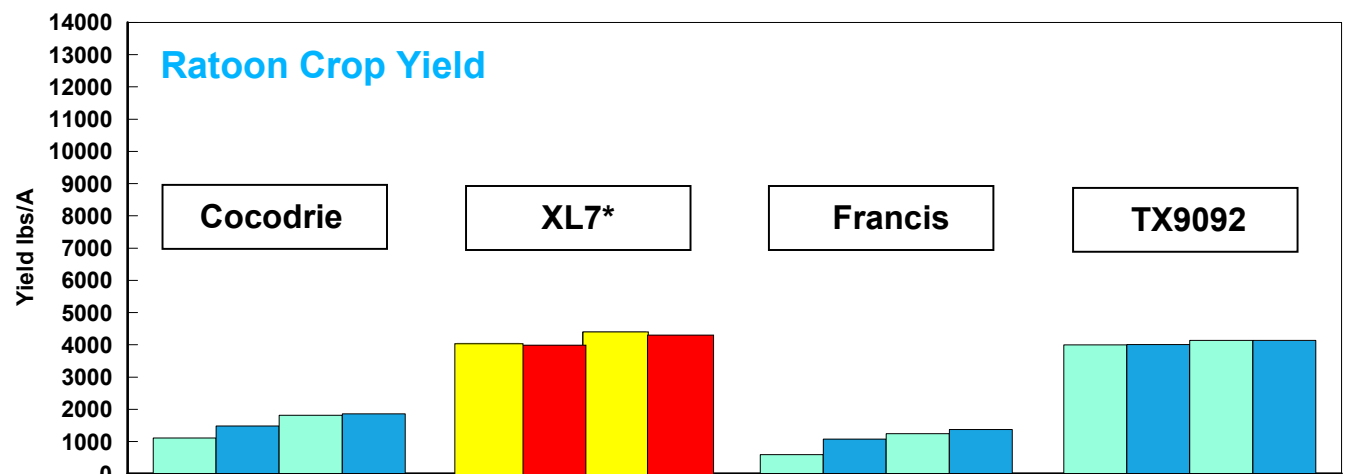
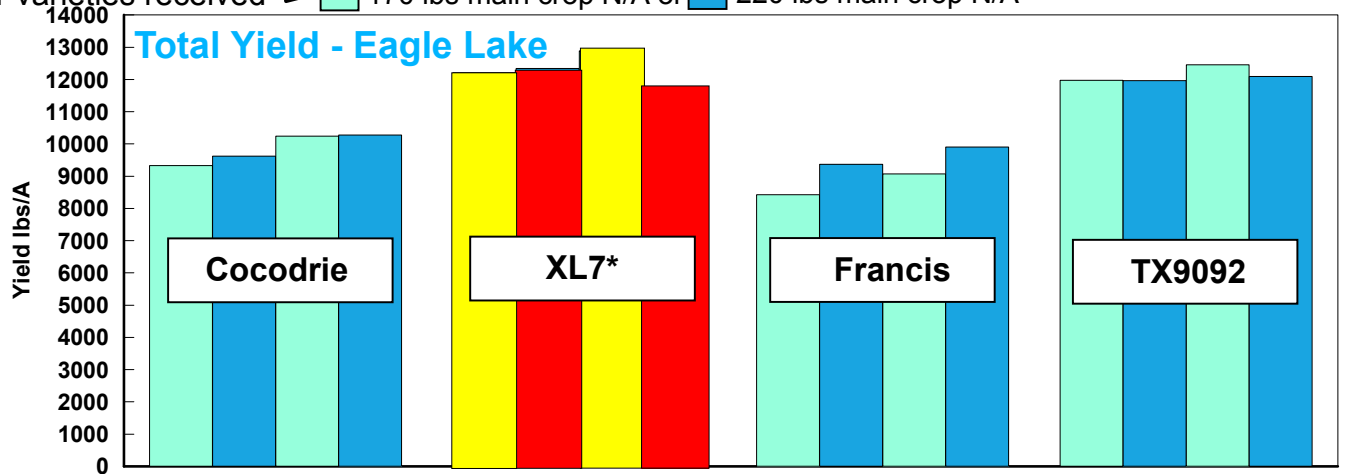


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Fig. 4-B

Main and Ratoon Crop Yield Response to N Rate and Seedlings/ft² for 13 Varieties at Eagle Lake in 2003. Planted March 19 and Arranged in Order of Decreasing Main Crop Yield.

*XL7, XL8, CLXL8, XP710 and XP712 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

8 8 12 12 8 8 13 13 10 10 16 16 9 9 13 13

Emergence to maturity (days)

114

109

118

113

Continued on next page

Fig. 4-C

Main and Ratoon Crop Yield Response to N Rate and Seedlings/ft² for 13 Varieties at Eagle Lake in 2003. Planted March 19 and Arranged in Order of Decreasing Main Crop Yield.

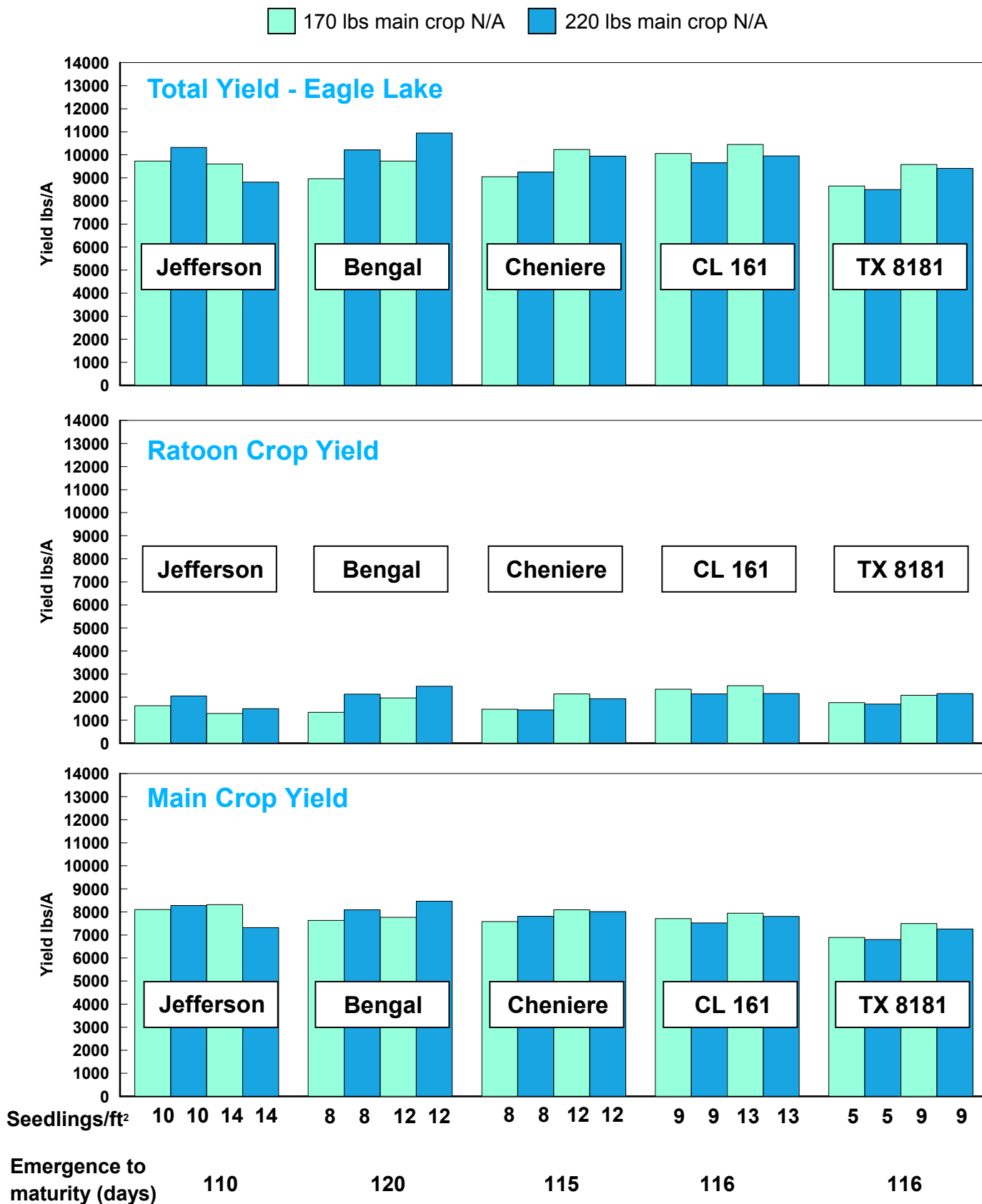


Figure 5A

Growth Stage Intervals When Planted April 1 & May 13, 2003 At Beaumont

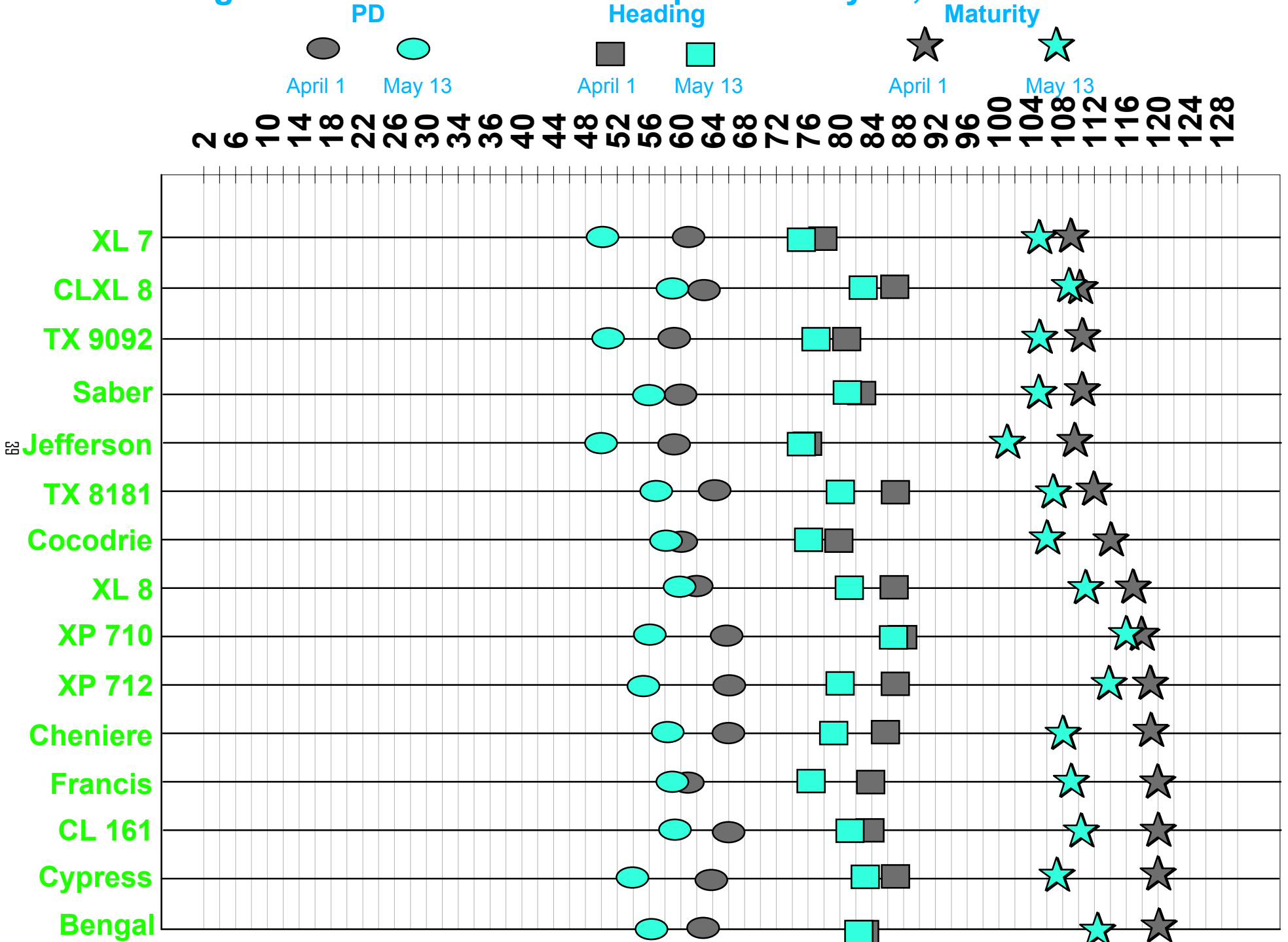
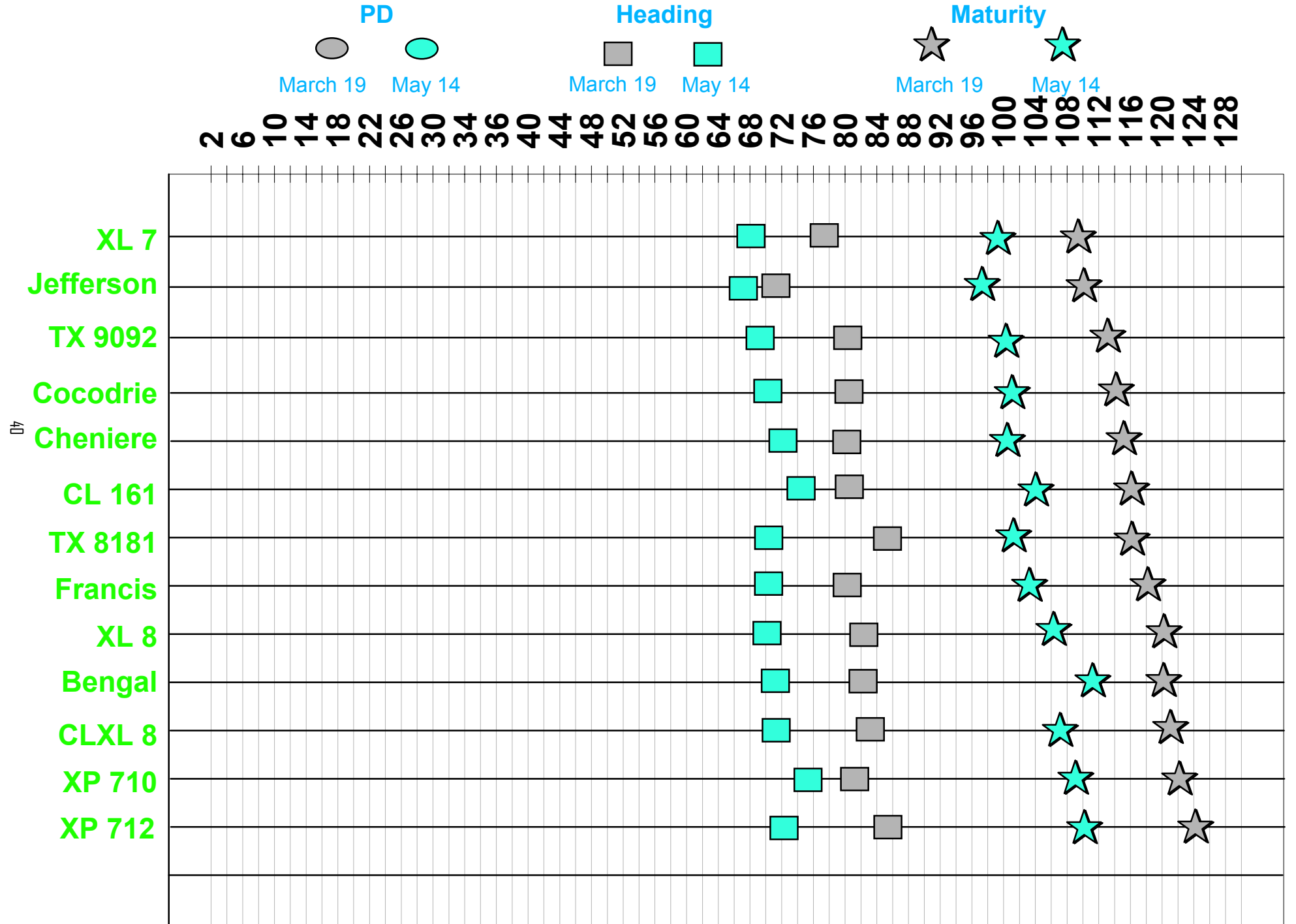


Figure 5B

Growth Stage Intervals When Planted March 19 & May 14, 2003 At Eagle Lake



APPENDIX

Appendix Table A: Variety Data Summary @ Eagle Lake

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)	% Lodge	M.C. % Whole	M.C. % Total	M.C. Hvst Moist	M.C. Lbs/Bu	R.C. % Whole	R.C. % Total	
1	XL7	1	150N	8	8170	4040	12210	78	109	110	0	48.9	68.3	15.9	39.1	51.9	69.5	
2	XL7	1	180N	9	8383	3957	12340	79	110	114	30	48.7	68.3	16.6	40.0	48.4	68.2	
3	XL7	2	150N	14	8489	4396	12885	75	108	110	18	48.0	68.7	15.2	39.1	51.2	69.1	
4	XL7	2	180N	12	7517	4222	11739	77	110	100	38	48.1	68.0	16.6	39.1	45.2	67.5	
Avg. Across All Treatment:					11	8140	4154	12294	77	109	108	21	48	68	16	39	49	69
5	TX9092	1	150N	9	7983	3997	11980	80	115	89	0	61.8	69.2	17.3	43.3	58.4	70.2	
6	TX9092	1	200N	8	7961	4009	11970	81	113	93	0	61.3	69.3	16.7	42.9	51.4	68.1	
7	TX9092	2	150N	15	8316	4142	12458	79	113	91	0	61.8	69.3	16.4	43.7	56.8	69.1	
8	TX9092	2	200N	11	7951	4140	12091	80	112	94	0	60.2	68.7	15.7	43.4	55.9	69.0	
Avg. Across All Treatment:					11	8053	4072	12125	80	113	92	0	61	69	17	43	56	69
9	Jeff	1	150N	10	8101	1631	9732	72	111	83	0	56.6	68.9	18.8	44.5	51.0	68.0	
10	Jeff	1	200N	11	8273	2054	10327	73	112	78	0	58.1	68.7	19.2	44.1	53.5	68.7	
11	Jeff	2	150N	14	8316	1292	9609	71	109	80	0	54.6	69.2	17.9	44.6	53.1	68.4	
12	Jeff	2	200N	14	8316	1498	9813	71	110	88	0	57.6	68.6	18.1	43.4	53.2	69.1	
Avg. Across All Treatment:					12	8252	1618	9870	71	110	82	0	57	69	18	44	53	69
13	TX8181	1	150N	5	6891	1760	8651	85	117	95	0	61.9	68.7	18.7	46.2	56.7	68.6	
14	TX8181	1	200N	5	6804	1694	8498	87	117	95	0	58.7	67.6	18.9	46.0	55.1	68.0	
15	TX8181	2	150N	9	7500	2084	9584	82	115	92	0	60.6	68.5	17.9	45.1	55.3	67.9	
16	TX8181	2	200N	8	7262	2153	9415	85	115	96	0	60.4	68.6	17.5	45.0	56.2	68.6	
Avg. Across All Treatment:					7	7115	1923	9037	85	116	94	0	60	68	18	46	56	68
17	Ccdr	1	150N	8	8216	1113	9328	79	114	90	0	56.6	67.4	16.9	45.0	58.7	69.9	
18	Ccdr	1	200N	7	8137	1488	9625	80	114	93	0	55.4	67.0	17.1	44.9	58.4	70.1	
19	Ccdr	2	150N	10	8422	1821	10244	78	113	88	0	57.5	67.9	16.5	44.1	59.2	70.1	
20	Ccdr	2	200N	13	8416	1858	10274	78	113	90	0	58.2	67.4	16.6	43.6	57.8	70.4	
Avg. Across All Treatment:					10	8298	1570	9868	78	114	90	0	57	67	17	44	59	70

Appendix Table A: Variety Data Summary @ Eagle Lake

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)	% Lodge	M.C. % Whole	M.C. % Total	M.C. Hvst Moist	M.C. Lbs/Bu	R.C. % Whole	R.C. % Total
21	XL8	1	150N	7	8543	3309	11852	82	120	104	0	48.8	69.0	16.7	39.5	47.2	68.9
22	XL8	1	180N	7	8660	3332	11992	84	121	105	0	48.9	68.4	17.2	39.6	51.6	70.3
23	XL8	2	150N	11	8661	3467	12127	80	120	100	0	49.4	68.9	16.2	39.2	50.7	70.0
24	XL8	2	180N	9	8992	3489	12481	82	120	106	0	49.8	68.5	16.6	39.2	55.6	71.1
Avg. Across All Treatment:				9	8714	3399	12113	82	120	104	0	49	69	17	39	51	70
25	CLXL8	1	150N	7	8575	3457	12032	82	121	109	0	49.3	67.7	16.8	39.8	51.7	69.8
26	CLXL8	1	180N	6	8840	3610	12450	85	122	110	0	47.6	67.0	17.4	39.7	54.4	70.8
27	CLXL8	2	150N	8	8621	3474	12094	81	120	109	0	48.3	67.9	16.4	39.5	48.5	69.2
28	CLXL8	2	180N	9	8794	3743	12537	82	120	110	0	48.2	67.3	16.6	39.3	55.5	70.4
Avg. Across All Treatment:				8	8707	3571	12278	83	121	109	0	48	67	17	40	53	70
29	XP712	1	150N	4	8176	3624	11799	85	123	108	0	57.9	67.5	18.5	42.0	59.8	70.1
30	XP712	1	180N	5	8698	4245	12942	85	124	111	0	58.7	67.0	18.9	40.6	62.2	70.2
31	XP712	2	150N	7	8624	3980	12604	85	124	108	0	57.8	67.4	18.6	41.8	62.5	70.2
32	XP712	2	180N	8	9076	4475	13550	84	124	112	0	59.0	67.3	18.9	40.6	62.2	70.2
Avg. Across All Treatment:				6	8643	4081	12724	85	124	110	0	58	67	19	41	62	70
33	XP710	1	150N	8	9706	3366	13073	80	122	108	0	42.2	65.4	17.7	39.6	48.3	69.8
34	XP710	1	180N	5	9727	3692	13418	80	123	109	0	43.8	66.2	17.9	39.3	48.1	70.0
35	XP710	2	150N	10	10097	3966	14064	79	121	109	0	41.0	64.4	17.1	38.9	47.1	69.3
36	XP710	2	180N	7	9784	4275	14059	79	122	106	0	42.4	65.5	17.6	37.8	47.0	68.9
Avg. Across All Treatment:				8	9829	3825	13654	79	122	108	0	42	65	18	39	48	70
37	Bngl	1	150N	7	7628	1343	8971	82	120	86	0	61.4	68.8	16.4	46.2	61.2	70.0
38	Bngl	1	200N	9	8091	2126	10217	82	121	87	0	63.4	68.7	16.8	45.9	62.1	70.4
39	Bngl	2	150N	13	7767	1961	9728	81	120	85	0	61.5	69.7	16.4	45.4	61.7	70.2
40	Bngl	2	200N	12	8471	2476	10947	82	121	87	0	64.5	69.7	17.1	45.6	61.4	70.1
Avg. Across All Treatment:				10	7989	1976	9966	82	120	86	0	63	69	17	46	62	70

Appendix Table A: Variety Data Summary @ Eagle Lake

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)	% Lodge	M.C. % Whole	M.C. % Total	M.C. Hvst Moist	M.C. Lbs/Bu	R.C. % Whole	R.C. % Total	
41	Chnr	1	150N	8	7579	1472	9051	80	115	87	0	49.7	69.1	13.6	43.1	59.2	69.6	
42	Chnr	1	200N	7	7810	1441	9251	81	116	90	0	51.5	69.3	13.9	42.8	58.1	68.8	
43	Chnr	2	150N	11	8091	2138	10229	79	115	89	0	49.2	69.5	13.2	42.2	58.8	69.0	
44	Chnr	2	200N	12	8017	1927	9943	80	115	90	0	52.9	70.0	13.5	41.8	60.1	69.6	
Avg. Across All Treatment					9	7874	1744	9619	80	115	89	0	51	69	14	42	59	69
45	Frns	1	150N	11	7833	597	8430	80	118	97	0	53.5	69.0	14.9	43.4	54.3	66.7	
46	Frns	1	200N	8	8291	1077	9368	81	120	99	0	55.4	68.2	16.1	42.8	53.8	67.4	
47	Frns	2	150N	14	7819	1249	9067	79	116	94	0	50.8	68.4	14.2	41.1	56.5	67.5	
48	Frns	2	200N	17	8532	1375	9907	80	118	97	0	54.1	68.5	15.3	41.7	54.9	67.4	
Avg. Across All Treatment					13	8119	1074	9193	80	118	97	0	53	69	15	42	55	67
49	CL161	1	150N	9	7717	2347	10064	80	117	92	0	59.4	68.5	14.3	43.1	55.9	69.6	
50	CL161	1	200N	9	7528	2134	9663	81	118	96	0	59.6	68.9	15.2	42.5	58.3	69.8	
51	CL161	2	150N	11	7948	2501	10450	80	115	92	0	59.3	69.0	13.5	43.1	57.0	69.4	
52	CL161	2	200N	14	7802	2153	9955	80	116	93	0	60.2	69.7	14.0	42.1	56.5	69.0	
Avg. Across All Treatment					11	7749	2284	10033	80	116	93	0	60	69	14	43	57	69

Appendix Table B-1: Variety Data Summary @ Beaumont

Variety	Treatment Number	Targeted Population Plants / sq. ft.	MC Total N Rate lbs/A	Rep	Actual Population Plants / sq. ft.	M.C.	Ratoon	Total	M.C.	M.C.	R.C.	R.C.	M.C.	M.C.	M.C.	M.C.	M.C.	% Lodge
						Yield Lbs/ac 12% M.	Yield Lbs/ac 12% M.	Yield Lbs/ac 12% M.	% Whole	% Total	% Whole	% Total	Days to Emerg	Days to PD	Days to Head	Days to Mat	Plant Ht. (cm)	
Jefferson	1	12	170	1	13	5961	2307	8268	63	71	58	70	13	59	77	112	96	0
Jefferson	1	12	170	2	9	6723	2046	8769	63	71	59	70	13	59	77	112	96	0
Jefferson	1	12	170	3	15	6228	1772	8000	64	71	62	71	13	59	77	112	96	0
Jefferson	1	12	170	4	13	6318	1462	7780	64	71			13	59	77	112	94	0
Avg.					12	6308	1897	8204	64	71	60	70	13	59	77	112	96	0
Jefferson	2	24	170	1	17	6883	2085	8969	62	71	58	70	13	59	75	112	94	0
Jefferson	2	24	170	2	17	6757	2188	8945	64	72	58	70	13	59	75	112	95	0
Jefferson	2	24	170	3	27	6486	1935	8421	63	71	58	70	13	59	75	112	96	0
Jefferson	2	24	170	4	22	6722	2202	8925	64	71			13	59	75	112	92	0
Avg.					21	6712	2102	8815	63	71	58	70	13	59	75	112	94	0
Jefferson	3	12	220	1		5963	1377	7340	64	71	61	69	13	59	77	112	102	0
Jefferson	3	12	220	2		6357	1592	7949	62	70	61	69	13	59	77	112	96	0
Jefferson	3	12	220	3		6826	1698	8525	64	71	62	70	13	59	77	112	100	0
Jefferson	3	12	220	4		6328	1874	8202	61	70			13	59	77	112	97	0
Avg.					12	6368	1635	8004	63	71	61	69	13	59	77	112	99	0
Jefferson	4	24	220	1		6704	2241	8945	62	69	62	70	13	59	75	112	99	0
Jefferson	4	24	220	2		6951	1856	8807	62	70	59	70	13	59	75	112	96	0
Jefferson	4	24	220	3		7152	2176	9328	62	70	62	70	13	59	75	112	96	0
Jefferson	4	24	220	4		7226	2241	9467	63	71			13	59	75	112	99	0
Avg.					21	7008	2129	9137	62	70	61	70	13	59	75	112	97	0
Avg. Across All Treatments						6599	1941	8540	63	71	60	70	13	59	76	112	96	0

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Appendix Table B-2: Variety Data Summary @ Beaumont

Variety	Treatment Number	Targeted Population Plants / sq. ft.	MC Total N Rate lbs/A	Rep	Actual Population Plants / sq. ft.	M.C. Yield Lbs/ac 12% M.	Ratoon Yield Lbs/ac 12% M.	Total Yield Lbs/ac 12% M.	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)	% Lodge
Saber	1	12	170	1	15	5471	3229	8701	64	70	61	68	13	73	85	110	96	0
Saber	1	12	170	2	13	5414	3246	8660	63	69	61	68	13	73	85	110	96	0
Saber	1	12	170	3	17	5465	3524	8990	64	70	63	70	13	73	85	110	101	0
Saber	1	12	170	4	16	5650	2792	8441	65	69			13	73	85	110	99	0
Avg.					15	5500	3198	8698	64	69	62	69	13	73	85	110	98	0
Saber	2	24	170	1	22	5858	3101	8958	65	69	62	68	13	73	81	110	97	0
Saber	2	24	170	2	32	5684	3047	8731	64	69	60	68	13	73	81	110	99	0
Saber	2	24	170	3	30	5790	3177	8967	64	70	62	70	13	73	81	110	96	0
Saber	2	24	170	4	30	6206	3115	9321	63	68			13	73	81	110	97	0
Avg.					28	5884	3110	8994	64	69	61	69	13	73	81	110	97	0
Saber	3	12	220	1		5850	3039	8889	63	69	62	69	13	73	85	110	96	0
Saber	3	12	220	2		6390	3177	9567	66	70	59	68	13	73	85	110	104	0
Saber	3	12	220	3		6098	3394	9492	63	68	63	70	13	73	85	110	103	0
Saber	3	12	220	4		6023	3622	9644	66	69			13	73	85	110	101	0
Avg.					15	6090	3308	9398	65	69	62	69	13	73	85	110	101	0
Saber	4	24	220	1		6291	3145	9436	66	70	61	68	13	73	81	110	101	0
Saber	4	24	220	2		6047	2878	8925	65	70	61	67	13	73	81	110	100	0
Saber	4	24	220	3		6040	3058	9098	64	69	62	70	13	73	81	110	103	0
Saber	4	24	220	4		6370	3199	9569	66	70			13	73	81	110	96	0
Avg.					28	6187	3070	9257	65	69	61	68	13	73	81	110	100	0
Avg. Across All Treatments						5915	3171	9087	64	69	61	69	13	73	83	110	99	0

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Appendix Table B-3: Variety Data Summary @ Beaumont

Variety	Treatment Number	Targeted Population Plants / sq. ft.	MC Total N Rate lbs/A	Rep	Actual Population Plants / sq. ft.	M.C. Yield	Ratoon Yield	Total Yield	M.C. %	M.C. %	R.C. %	R.C. %	M.C. Days	M.C. Days	M.C. Days	M.C. Days	M.C. Plant	% Lodge
						Lbs/ac 12% M.	Lbs/ac 12% M.	Lbs/ac 12% M.	Whole	Total	Whole	Total	Emerg	to PD	to Head	to Mat	Ht. (cm)	
TX 9092	1	12	170	1	14	6743	3484	10227	62	72	61	70	13	59	82	110	97	0
TX 9092	1	12	170	2	8	6452	3706	10158	62	72	61	70	13	59	82	110	94	0
TX 9092	1	12	170	3	14	6447	3936	10383	62	70	62	70	13	59	82	110	95	0
TX 9092	1	12	170	4	10	6373	4417	10790	62	72			13	59	82	110	96	0
Avg.					11	6504	3886	10390	62	72	61	70	13	59	82	110	95	0
TX 9092	2	24	170	1	20	7057	3891	10948	61	71	62	71	13	59	80	110	95	0
TX 9092	2	24	170	2	22	7156	4238	11394	62	71	62	70	13	59	80	110	91	0
TX 9092	2	24	170	3	25	7130	4202	11332	60	70	62	70	13	59	80	110	90	0
TX 9092	2	24	170	4	20	7171	4136	11307	62	72			13	59	80	110	92	0
Avg.					22	7129	4117	11246	61	71	62	71	13	59	80	110	92	0
TX 9092	3	12	220	1		7054	2995	10049	62	71	60	70	13	59	82	110	101	0
TX 9092	3	12	220	2		6813	3145	9958	62	71	62	71	13	59	82	110	96	0
TX 9092	3	12	220	3		7120	3966	11086	63	72	62	71	13	59	82	110	101	0
TX 9092	3	12	220	4		7102	4300	11402	62	71			13	59	82	110	101	0
Avg.					11	7022	3602	10624	62	71	62	71	13	59	82	110	99	0
TX 9092	4	24	220	1		7015	3158	10173	62	71	60	69	13	59	80	110	93	0
TX 9092	4	24	220	2		6364	4054	10418	62	70	63	71	13	59	80	110	97	0
TX 9092	4	24	220	3		7426	4016	11442	62	70	63	71	13	59	80	110	96	0
TX 9092	4	24	220	4		7285	4234	11519	63	72			13	59	80	110	94	0
Avg.					22	7022	3866	10888	62	71	62	70	13	59	80	110	95	0
Avg. Across All Treatments						6919	3867	10787	62	71	62	70	13	59	81	110	95	0

Appendix Table B-4: Variety Data Summary @ Beaumont

Variety	Treatment Number	Targeted Population Plants / sq. ft.	MC Total N Rate lbs/A	Rep	Actual Population Plants / sq. ft.	M.C.	Ratoon	Total	M.C.	M.C.	R.C.	R.C.	M.C.	M.C.	M.C.	M.C.	M.C.	% Lodge
						Yield Lbs/ac 12% M.	Yield Lbs/ac 12% M.	Yield Lbs/ac 12% M.	% Whole	% Total	% Whole	% Total	Days to Emerg	Days to PD	Days to Head	Days to Mat	Plant Ht. (cm)	
Cocodrie	1	12	170	1	9	6634	1890	8524	61	70	63	70	14	60	81	117	99	0
Cocodrie	1	12	170	2	16	6867	1828	8694	62	70	62	68	14	60	81	117	96	0
Cocodrie	1	12	170	3	10	6820	1918	8738	62	71	62	69	14	60	81	117	96	0
Cocodrie	1	12	170	4	9	6947	2256	9202	66	72	0	0	14	60	81	117	95	0
Avg.					11	6817	1973	8790	63	71	62	68	14	60	81	117	96	0
Cocodrie	2	24	170	1	20	6833	2258	9091	63	70	62	69	14	60	78	117	94	0
Cocodrie	2	24	170	2	15	7394	2346	9741	62	71	61	69	14	60	78	117	96	0
Cocodrie	2	24	170	3	17	7362	2326	9688	62	70	60	68	14	60	78	117	94	0
Cocodrie	2	24	170	4	18	7545	2289	9833	62	70	0	0	14	60	78	117	93	0
Avg.					17	7284	2305	9588	62	70	60	68	14	60	78	117	94	0
Cocodrie	3	12	220	1	-	7221	1907	9128	60	71	62	70	14	60	81	117	101	0
Cocodrie	3	12	220	2	-	7379	1669	9048	61	70	62	69	14	60	81	117	99	0
Cocodrie	3	12	220	3	-	7431	2070	9501	58	70	61	68	14	60	81	117	98	0
Cocodrie	3	12	220	4	-	7401	2437	9838	62	71	0	0	14	60	81	117	101	0
Avg.					11	7358	2021	9379	60	71	61	68	14	60	81	117	100	0
Cocodrie	4	24	220	1	-	7496	2270	9765	62	70	60	68	14	60	78	117	97	0
Cocodrie	4	24	220	2	-	7732	2375	10107	64	71	58	66	14	60	78	117	99	0
Cocodrie	4	24	220	3	-	7202	2269	9471	62	70	59	67	14	60	78	117	98	0
Cocodrie	4	24	220	4	-	7317	2260	9577	59	68	0	0	14	60	78	117	96	0
Avg.					17	7437	2293	9730	62	70	58	67	14	60	78	117	97	0
Avg. Across All Treatments						7224	2148	9372	62	70	60	68	14	60	80	117	97	0

Appendix Table B-5: Variety Data Summary @ Beaumont

Variety	Treatment Number	Targeted Population Plants / sq. ft.	N Rate	Rep	Actual Population Plants / sq. ft.	M.C.	Ratoon	Total	M.C.	M.C.	R.C.	R.C.	M.C.	M.C.	M.C.	M.C.	M.C.	% Lodge
						Yield Lbs/ac 12% M.	Yield Lbs/ac 12% M.	Yield Lbs/ac 12% M.	% Whole	% Total	% Whole	% Total	Days to Emerg	Days to PD	Days to Head	Days to Mat	Plant Ht. (cm)	
Cheniere	1	12	170	1	9	6691	1444	8135	61	70	59	68	13	63	87	119	90	0
Cheniere	1	12	170	2	11	6804	1842	8647	61	70	59	67	13	63	87	119	89	0
Cheniere	1	12	170	3	17	7102	2114	9216	62	71	61	68	13	63	87	119	92	0
Cheniere	1	12	170	4	15	7043	2048	9091	62	71			13	63	87	119	96	0
Avg.					13	6910	1862	8772	61	71	60	68	13	63	87	119	92	0
Cheniere	2	24	170	1	21	7250	2196	9447	60	70	60	67	13	63	85	119	91	0
Cheniere	2	24	170	2	19	7200	2192	9393	62	72	60	68	13	63	85	119	93	0
Cheniere	2	24	170	3	27	7428	2235	9663	62	71	61	68	13	63	85	119	91	0
Cheniere	2	24	170	4	28	7181	2331	9512	63	71			13	63	85	119	92	0
Avg.					23	7265	2239	9504	62	71	60	68	13	63	85	119	92	0
Cheniere	3	12	220	1		7157	1974	9131	61	70	59	67	13	63	87	119	93	0
Cheniere	3	12	220	2		7176	2049	9225	62	71	60	67	13	63	87	119	97	0
Cheniere	3	12	220	3		7108	2344	9452	60	70	58	66	13	63	87	119	94	0
Cheniere	3	12	220	4		7478	2261	9738	62	71			13	63	87	119	95	0
Avg.					13	7230	2157	9387	61	71	59	67	13	63	87	119	95	0
Cheniere	4	24	220	1		7714	2356	10070	63	70	57	65	13	63	85	119	95	0
Cheniere	4	24	220	2		7277	2322	9599	62	71	58	66	13	63	85	119	93	0
Cheniere	4	24	220	3		7151	2544	9695	60	70	61	68	13	63	85	119	92	0
Cheniere	4	24	220	4		7473	2464	9936	62	71			13	63	85	119	94	0
Avg.					23	7403	2422	9825	62	71	59	66	13	63	85	119	94	0
Avg. Across All Treatments						7202	2170	9372	61	71	59	67	13	63	86	119	93	0

Appendix Table B-6: Variety Data Summary @ Beaumont

Variety	Treatment Number	Targeted Population Plants / sq. ft.	N Rate	Rep	Actual Population Plants / sq. ft.	M.C.	Ratoon	Total	M.C.	M.C.	R.C.	R.C.	M.C.	M.C.	M.C.	M.C.	M.C.	% Lodge
						Yield Lbs/ac 12% M.	Yield Lbs/ac 12% M.	Yield Lbs/ac 12% M.	% Whole	% Total	% Whole	% Total	Days to Emerg	Days to PD	Days to Head	Days to Mat	Plant Ht. (cm)	
TX 8181	1	12	170	1	15	5997	2675	8672	62	70	58	65	13	64	87	114	97	0
TX 8181	1	12	170	2	10	5843	2836	8679	59	70	61	66	13	64	87	114	98	0
TX 8181	1	12	170	3	14	6311	2874	9185	62	70	61	67	13	64	87	114	95	0
TX 8181	1	12	170	4	14	6015	3345	9360	62	70			13	64	87	114	95	0
Avg.					13	6041	2933	8974	61	70	60	66	13	64	87	114	96	0
TX 8181	2	24	170	1	21	6400	3031	9431	61	69	58	65	13	64	85	114	96	0
TX 8181	2	24	170	2	22	6285	2928	9213	62	70	61	67	13	64	85	114	92	0
TX 8181	2	24	170	3	20	6677	3131	9808	64	72	62	67	13	64	85	114	93	0
TX 8181	2	24	170	4	21	6838	2882	9720	62	71			13	64	85	114	93	0
Avg.					21	6550	2993	9543	62	71	60	66	13	64	85	114	93	0
TX 8181	3	12	220	1		6183	2524	8707	62	70	62	67	13	64	87	114	97	0
TX 8181	3	12	220	2		6020	2479	8499	62	70	59	66	13	64	87	114	96	0
TX 8181	3	12	220	3		6548	2936	9484	62	70	58	65	13	64	87	114	95	0
TX 8181	3	12	220	4		6048	2613	8661	58	66			13	64	87	114	98	0
Avg.					13	6200	2638	8838	61	69	60	66	13	64	87	114	96	0
TX 8181	4	24	220	1		6689	2678	9367	63	70	60	66	13	64	85	114	95	0
TX 8181	4	24	220	2		6591	2835	9426	62	70	62	67	13	64	85	114	95	0
TX 8181	4	24	220	3		6679	2584	9263	62	70	62	68	13	64	85	114	94	0
TX 8181	4	24	220	4		6748	3173	9921	62	70			13	64	85	114	96	0
Avg.					21	6677	2818	9494	62	70	61	67	13	64	85	114	95	0
Avg. Across All Treatments						6367	2845	9212	62	70	60	66	13	64	86	114	95	0

Appendix Table B-7: Variety Data Summary @ Beaumont

Variety	Treatment Number	Targeted Population Plants / sq. ft.	N Rate	Rep	Actual Population Plants / sq. ft.	M.C.	Ratoon	Total	M.C.	M.C.	R.C.	R.C.	M.C.	M.C.	M.C.	M.C.	M.C.	Plant Ht. (cm)	% Lodge
						Yield Lbs/ac 12% M.	Yield Lbs/ac 12% M.	Yield Lbs/ac 12% M.	% Whole	% Total	% Whole	% Total	Days to Emerg	Days to PD	Days to Head	Days to Mat			
Francis	1	12	170	1	12	5884	2291	8175	53	65	57	65	13	61	85	120	103	0	
Francis	1	12	170	2	16	6233	1999	8232	54	66	54	63	13	61	85	120	105	0	
Francis	1	12	170	3	12	5368	2709	8077	53	64	58	66	13	61	85	120	105	0	
Francis	1	12	170	4	15	5798	2623	8421	54	65			13	61	85	120	103	0	
Avg.					14	5821	2405	8226	53	65	56	65	13	61	85	120	104	0	
Francis	2	24	170	1	21	6608	2333	8941	56	66	57	64	13	61	82	120	102	0	
Francis	2	24	170	2	18	6604	2262	8866	58	68	54	63	13	61	82	120	102	0	
Francis	2	24	170	3	27	6341	2563	8904	54	66	58	66	13	61	82	120	99	0	
Francis	2	24	170	4	30	5937	2149	8086	56	67			13	61	82	120	99	0	
Avg.					24	6373	2327	8699	56	67	56	64	13	61	82	120	100	0	
Francis	3	12	220	1		5838	2454	8292	54	65	58	66	13	61	85	120	105	0	
Francis	3	12	220	2		6392	2287	8679	54	65	59	66	13	61	85	120	109	0	
Francis	3	12	220	3		6214	2228	8443	55	66	57	65	13	61	85	120	103	0	
Francis	3	12	220	4		5975	2398	8373	54	65			13	61	85	120	105	0	
Avg.					14	6105	2342	8447	54	65	58	66	13	61	85	120	105	0	
Francis	4	24	220	1		6412	2814	9226	54	65	55	63	13	61	82	120	101	0	
Francis	4	24	220	2		5949	2747	8696	53	64	59	66	13	61	82	120	103	0	
Francis	4	24	220	3		6635	2141	8776	54	66	56	65	13	61	82	120	109	0	
Francis	4	24	220	4		6721	1929	8649	56	66			13	61	82	120	105	0	
Avg.					24	6429	2408	8837	54	65	57	65	13	61	82	120	104	0	
Avg. Across All Treatments						6182	2370	8552	55	65	57	65	13	61	84	120	103	0	

Appendix Table B-8: Variety Data Summary @ Beaumont

Variety	Treatment Number	Targeted Population Plants / sq. ft.	N Rate	Rep	Actual Population Plants / sq. ft.	M.C. Yield Lbs/ac 12% M.	Ratoon Yield Lbs/ac 12% M.	Total Yield Lbs/ac 12% M.	M.C. % Whole	M.C. % Total	R.C. % Whole	R.C. % Total	M.C. Days to Emerg	M.C. Days to PD	M.C. Days to Head	M.C. Days to Mat	M.C. Plant Ht. (cm)	% Lodge
CL 161	1	12	170	1	10	6404	3147	9551	60	66	62	67	13	63	85	120	101	0
CL 161	1	12	170	2	11	6761	3156	9917	63	68	63	68	13	63	85	120	101	0
CL 161	1	12	170	3	11	6175	3054	9230	61	67	62	68	13	63	85	120	97	0
CL 161	1	12	170	4	12	5919	3108	9027	59	66			13	63	85	120	97	0
Avg.					11	6315	3116	9431	61	67	62	68	13	63	85	120	99	0
CL 161	2	24	170	1	18	7202	3330	10532	62	69	62	67	13	63	82	120	97	0
CL 161	2	24	170	2	20	6749	3241	9989	61	68	62	67	13	63	82	120	96	0
CL 161	2	24	170	3	27	6730	3066	9796	60	68	62	69	13	63	82	120	99	0
CL 161	2	24	170	4	26	6631	3077	9707	62	68			13	63	82	120	100	0
Avg.					23	6828	3178	10006	61	68	62	68	13	63	82	120	98	0
CL 161	3	12	220	1		6080	3387	9468	56	65	63	68	13	63	85	120	103	0
CL 161	3	12	220	2		6611	3017	9628	58	66	61	66	13	63	85	120	104	0
CL 161	3	12	220	3		6536	2711	9247	61	67	62	68	13	63	85	120	102	0
CL 161	3	12	220	4		6662	2848	9510	63	69			13	63	85	120	101	0
Avg.					11	6472	2991	9463	60	67	62	67	13	63	85	120	102	0
CL 161	4	24	220	1		6644	3221	9864	59	66	63	69	13	63	82	120	100	0
CL 161	4	24	220	2		6683	3116	9798	59	67	63	68	13	63	82	120	99	0
CL 161	4	24	220	3		6825	2982	9807	60	69	62	67	13	63	82	120	101	0
CL 161	4	24	220	4		7117	2740	9857	63	68			13	63	82	120	101	0
Avg.					23	6817	3015	9832	60	68	63	68	13	63	82	120	100	0
Avg. Across All Treatments						6608	3075	9683	61	67	62	68	13	63	84	120	100	0

Appendix Table B-9: Variety Data Summary @ Beaumont

Variety	Treatment Number	Targeted Population Plants / sq. ft.	N Rate	Rep	Actual Population Plants / sq. ft.	M.C. Yield Lbs/ac 12% M.	Ratoon Yield Lbs/ac 12% M.	Total Yield Lbs/ac 12% M.	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)	% Lodge
Cypress	1	12	170	1	8	5868	2906	8773	60	69	61	68	13	62	88	120	94	0
Cypress	1	12	170	2	12	5477	2811	8288	58	67	58	67	13	62	88	120	95	0
Cypress	1	12	170	3	9	6162	2729	8892	60	69	56	65	13	62	88	120	91	0
Cypress	1	12	170	4	10	5961	2825	8786	58	67			13	62	88	120	93	0
Avg.					10	5867	2818	8685	59	68	58	67	13	62	88	120	93	0
Cypress	2	24	170	1	33	6572	2743	9316	62	70	58	66	13	62	86	120	94	0
Cypress	2	24	170	2	23	6057	3079	9136	59	67	60	67	13	62	86	120	93	0
Cypress	2	24	170	3	20	6458	2910	9368	62	69	58	66	13	62	86	120	92	0
Cypress	2	24	170	4	22	6534	2628	9162	61	68			13	62	86	120	92	0
Avg.					24	6405	2840	9246	61	68	59	66	13	62	86	120	93	0
Cypress	3	12	220	1		5936	3084	9019	58	67	61	68	13	62	88	120	100	0
Cypress	3	12	220	2		6223	2886	9109	58	67	59	66	13	62	88	120	96	0
Cypress	3	12	220	3		6180	2289	8469	58	67	58	66	13	62	88	120	97	0
Cypress	3	12	220	4		6348	2854	9202	61	68			13	62	88	120	94	0
Avg.					10	6172	2778	8950	59	67	59	67	13	62	88	120	96	0
Cypress	4	24	220	1		6343	2764	9107	60	68	58	66	13	62	86	120	96	0
Cypress	4	24	220	2		6422	2990	9412	60	69	58	67	13	62	86	120	96	0
Cypress	4	24	220	3		6582	3024	9607	59	68	62	68	13	62	86	120	95	0
Cypress	4	24	220	4		6750	2599	9349	60	69			13	62	86	120	94	0
Avg.					24	6524	2844	9369	60	68	59	67	13	62	86	120	95	0
Avg. Across All Treatments						6242	2820	9062	60	68	59	67	13	62	87	120	94	0

Appendix Table B-10: Variety Data Summary @ Beaumont

Variety	Treatment Number	Targeted Population Plants / sq. ft.	N Rate	Rep	Actual Population Plants / sq. ft.	M.C.	Ratoon	Total	M.C.	M.C.	R.C.	R.C.	M.C.	M.C.	M.C.	M.C.	M.C.	Plant Ht. (cm)	% Lodge
						Yield Lbs/ac 12% M.	Yield Lbs/ac 12% M.	Yield Lbs/ac 12% M.	% Whole	% Total	% Whole	% Total	Days to Emergence	Days to PD	Days to Head	Days to Mat			
Bengal	1	12	170	1	16	4894	3648	8542	58	68	57	68	13	61	85	120	90	0	
Bengal	1	12	170	2	10	5090	3776	8866	58	68	59	70	13	61	85	120	90	0	
Bengal	1	12	170	3	12	4943	4063	9006	58	68	58	70	13	61	85	120	89	0	
Bengal	1	12	170	4	16	4790	3751	8541	57	67			13	61	85	120	90	0	
Avg.					13	4929	3810	8739	58	68	58	69	13	61	85	120	90	0	
Bengal	2	24	170	1	21	5543	4039	9582	61	69	58	69	13	61	81	120	88	0	
Bengal	2	24	170	2	18	5969	3139	9108	62	69	62	70	13	61	81	120	89	0	
Bengal	2	24	170	3	30	5018	3809	8826	58	66	54	68	13	61	81	120	90	0	
Bengal	2	24	170	4	23	5571	4020	9590	60	69			13	61	81	120	91	0	
Avg.					23	5525	3751	9277	60	68	58	69	13	61	81	120	89	0	
Bengal	3	12	220	1		5123	4213	9336	60	68	57	69	13	61	85	120	96	0	
Bengal	3	12	220	2		5659	3812	9471	59	68	58	69	13	61	85	120	94	0	
Bengal	3	12	220	3		5239	4050	9288	60	69	58	70	13	61	85	120	91	0	
Bengal	3	12	220	4		5186	3522	8708	58	67			13	61	85	120	90	0	
Avg.					13	5302	3899	9201	59	68	58	69	13	61	85	120	93	0	
Bengal	4	24	220	1		6028	4246	10274	62	70	59	70	13	61	81	120	93	0	
Bengal	4	24	220	2		5552	3902	9453	59	69	59	70	13	61	81	120	92	0	
Bengal	4	24	220	3		5033	4144	9177	58	68	54	69	13	61	81	120	93	0	
Bengal	4	24	220	4		5546	3523	9069	62	70			13	61	81	120	90	0	
Avg.					23	5540	3953	9493	60	69	58	70	13	61	81	120	92	0	
Avg. Across All Treatments						5324	3853	9177	59	68	58	69	13	61	83	120	91	0	

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Appendix Table B-11: Variety Data Summary @ Beaumont

Variety	Treatment Number	Targeted Population Plants / sq. ft.	MC Total N Rate lbs/A	Rep	Actual Population Plants / sq. ft.	M.C. Yield	Ratoon Yield	Total Yield	M.C. %	M.C. %	R.C. %	R.C. %	M.C. Days	M.C. Days	M.C. Days	M.C. Days	M.C. Plant	%
						Lbs/ac	Lbs/ac	Lbs/ac	12 % M.	12 % M.	12 % M.	Whole	Total	Whole	Total	Emerg	PD	Head
XL 7	1	9	150	1	10	6592	4221	10812	60	72	55	70	14	61	78	109	106	0
XL 7	1	9	150	2	11	7028	3985	11012	59	71	52	69	14	61	78	109	109	0
XL 7	1	9	150	3	12	6784	4424	11208	61	71	55	69	14	61	78	109	110	0
XL 7	1	9	150	4	7	6978	4292	11270	58	70			14	61	78	109	114	0
Avg.					10	6906	4204	11110	60	71	54	69	14	61	78	109	109	0
XL 7	2	18	150	1	19	6818	4324	11142	59	71	54	69	14	61	78	109	106	0
XL 7	2	18	150	2	17	7310	3913	11223	58	71	54	68	14	61	78	109	109	0
XL 7	2	18	150	3	20	7201	4240	11441	59	71	56	70	14	61	78	109	108	0
XL 7	2	18	150	4	22	7409	4160	11569	61	71			14	61	78	109	113	0
Avg.					19	7256	4076	11332	59	71	55	69	14	61	78	109	109	0
XL 7	3	9	180	1	-	7422	3966	11388	58	70	54	70	14	61	78	109	113	0
XL 7	3	9	180	2	-	7369	3882	11251	58	71	51	70	14	61	78	109	118	0
XL 7	3	9	180	3	-	7466	4572	12038	58	72	53	70	14	61	78	109	116	0
XL 7	3	9	180	4	-	7062	4178	11239	57	70			14	61	78	109	115	0
Avg.					10	7417	4227	11644	58	72	52	70	14	61	78	109	115	0
XL 7	4	18	180	1	-	7124	4170	11294	59	72	54	70	14	61	78	109	112	0
XL 7	4	18	180	2	-	7410	4750	12160	56	70	53	70	14	61	78	109	110	0
XL 7	4	18	180	3	-	7256	4661	11917	54	70	53	70	14	61	78	109	116	0
XL 7	4	18	180	4	-	7701	4589	12290	60	71			14	61	78	109	115	0
Avg.					19	7333	4705	12039	55	70	53	70	14	61	78	109	113	0
Avg. Across All Treatments						7228	4303	11531	58	71	53	69	14	61	78	109	112	0

Appendix Table B-12: Variety Data Summary @ Beaumont

Variety	Treatment Number	Targeted Population Plants / sq. ft.	MC Total N Rate lbs/A	Rep	Actual Population Plants / sq. ft.	M.C.	Ratoon	Total	M.C.	M.C.	R.C.	R.C.	M.C.	M.C.	M.C.	M.C.	M.C.	Plant Lt. (cm)	% Lodge
						Yield Lbs/ac	Yield Lbs/ac	Yield Lbs/ac	% Whole	% Total	% Whole	% Total	Days to Emerg	Days to PD	Days to Head	Days to Mat			
XL 8	1	9	150	1	15	7970	3370	11341	61	72	61	70	13	63	88	117	107	0	
XL 8	1	9	150	2	8	7696	3729	11425	62	72	60	69	13	63	88	117	110	0	
XL 8	1	9	150	3	10	8204	3000	11204	58	70	60	70	13	63	88	117	105	0	
XL 8	1	9	150	4	10	7854	3644	11498	62	71	60	69	13	63	88	117	107	0	
Avg.					11	7950	3365	11314	60	71	60	69	13	63	88	117	107	0	
XL 8	2	18	150	1	19	7902	3222	11124	61	70	57	68	13	63	85	117	107	0	
XL 8	2	18	150	2	23	8315	3857	12172	62	71	60	70	13	63	85	117	107	0	
XL 8	2	18	150	3	26	7888	3323	11211	62	70	59	68	13	63	85	117	104	0	
XL 8	2	18	150	4	20	8150	3349	11498	60	70	60	69	13	63	85	117	106	0	
Avg.					22	8101	3590	11691	62	71	59	69	13	63	85	117	106	0	
XL 8	3	9	180	1	-	8277	2851	11129	59	71	58	70	13	63	88	117	111	0	
XL 8	3	9	180	2	-	8377	2884	11261	56	69	58	68	13	63	88	117	108	0	
XL 8	3	9	180	3	-	8388	3104	11492	60	71	60	70	13	63	88	117	109	0	
XL 8	3	9	180	4	-	8265	3656	11921	58	70	60	69	13	63	88	117	107	0	
Avg.					11	8383	2994	11377	58	70	59	69	13	63	88	117	108	0	
XL 8	4	18	180	1	-	8163	3905	12068	62	70	61	70	13	63	85	117	107	0	
XL 8	4	18	180	2	-	8414	3504	11918	60	71	60	69	13	63	85	117	110	0	
XL 8	4	18	180	3	-	7964	3563	11528	60	70	62	70	13	63	85	117	110	0	
XL 8	4	18	180	4	-	7857	3636	11493	62	71	60	69	13	63	85	117	110	0	
Avg.					22	8189	3534	11723	60	71	61	70	13	63	85	117	109	0	
Avg. Across All Treatments						8156	3371	11526	60	71	60	69	13	63	87	117	108	0	

Appendix Table B-13: Variety Data Summary @ Beaumont

Variety	Treatment Number	Targeted Population Plants / sq. ft.	MC Total N Rate lbs/A	Rep	Actual Population Plants / sq. ft.	M.C. Yield Lbs/ac 12 % M.	Ratoon Yield Lbs/ac 12 % M.	Total Yield Lbs/ac 12 % M.	M.C. % Whole	M.C. % Total	R.C. % Whole	R.C. % Total	M.C. Days to Emerg	M.C. Days to PD	M.C. Days to Head	M.C. Days to Mat	M.C. Plant Ht. (cm)	% Lodge
CLXL 8	1	9	150	1	10	7605	3193	10798	59	70	57	67	13	63	88	110	106	0
CLXL 8	1	9	150	2	12	7195	3913	11108	58	70	59	70	13	63	88	110	110	0
CLXL 8	1	9	150	3	14	7042	2945	9988	58	70	58	69	13	63	88	110	111	0
CLXL 8	1	9	150	4	12	7428	3332	10761	62	72			13	63	88	110	110	0
Avg.					12	7119	3429	10548	58	70	58	69	13	63	88	110	109	0
CLXL 8	2	18	150	1	20	7773	3281	11054	61	70	60	70	13	63	85	110	108	0
CLXL 8	2	18	150	2	18	7294	3958	11252	62	70	58	70	13	63	85	110	109	0
CLXL 8	2	18	150	3	21	7899	3504	11403	58	71	57	69	13	63	85	110	108	0
CLXL 8	2	18	150	4	22	8036	2563	10599	58	71			13	63	85	110	109	0
Avg.					20	7597	3731	11328	60	71	58	70	13	63	85	110	108	0
CLXL 8	3	9	180	1	-	7944	2801	10746	56	71	55	69	13	63	88	110	117	0
CLXL 8	3	9	180	2	-	7786	3756	11542	57	70	60	70	13	63	88	110	112	0
CLXL 8	3	9	180	3	-	7736	3297	11034	57	69	60	71	13	63	88	110	112	0
CLXL 8	3	9	180	4	-	7766	3213	10980	59	71			13	63	88	110	110	0
Avg.					12	7761	3527	11288	57	70	58	70	13	63	88	110	113	0
CLXL 8	4	18	180	1	-	7624	3126	10750	58	70	58	70	13	63	85	110	110	0
CLXL 8	4	18	180	2	-	7903	3478	11381	58	70	59	70	13	63	85	110	110	0
CLXL 8	4	18	180	3	-	8036	3660	11696	58	70	57	69	13	63	85	110	110	0
CLXL 8	4	18	180	4	-	7818	2643	10461	58	70			13	63	85	110	110	0
Avg.					20	7969	3569	11539	58	70	58	70	13	63	85	110	110	0
Avg. Across All Treatments						7611	3564	11176	58	70	58	69	13	63	87	110	110	0

Appendix Table B-14: Variety Data Summary @ Beaumont

Variety	Treatment Number	Targeted Population Plants / sq. ft.	MC Total N Rate lbs/A	Rep	Actual Population Plants / sq. ft.	M.C.	Ratoon	Total	M.C.	M.C.	R.C.	R.C.	M.C.	M.C.	M.C.	M.C.	M.C.	% Lodge
						Yield Lbs/ac 12% M.	Yield Lbs/ac 12% M.	Yield Lbs/ac 12% M.	% Whole	% Total	% Whole	% Total	Days to Emerg	Days to PD	Days to Head	Days to Mat	Plant Ht. (cm)	
XP712	1	9	150	1	8	6295	4111	10406	61	67	55	66	14	63	88	119	99	0
XP712	1	9	150	2	8	6314	4146	10459	62	69	54	64	14	63	88	119	97	0
XP712	1	9	150	3	11	6461	5018	11479	62	70	57	66	14	63	88	119	99	0
XP712	1	9	150	4	12	6368	5033	11402	62	68			14	63	88	119	102	0
Avg.					10	6359	4577	10936	61	68	55	65	14	63	88	119	99	0
XP712	2	18	150	1	20	6868	4046	10913	61	68	55	65	14	63	86	119	96	0
XP712	2	18	150	2	19	6658	4480	11138	61	68	54	65	14	63	86	119	96	0
XP712	2	18	150	3	22	6721	4640	11361	61	68	52	64	14	63	86	119	97	0
XP712	2	18	150	4	16	6525	4755	11280	62	69			14	63	86	119	97	0
Avg.					19	6693	4480	11173	61	68	54	65	14	63	86	119	97	0
XP712	3	9	180	1	-	6866	4940	11807	61	67	57	66	14	63	88	119	101	0
XP712	3	9	180	2	-	6870	5004	11875	61	67	56	65	14	63	88	119	100	0
XP712	3	9	180	3	-	7104	4802	11907	60	67	58	67	14	63	88	119	101	0
XP712	3	9	180	4	-	7108	5020	12128	62	68			14	63	88	119	109	0
Avg.					10	6987	4942	11929	61	67	57	66	14	63	88	119	103	0
XP712	4	18	180	1	-	7067	5117	12184	61	67	57	66	14	63	86	119	102	0
XP712	4	18	180	2	-	7008	4955	11963	62	67	57	66	14	63	86	119	102	0
XP712	4	18	180	3	-	7007	4906	11913	58	67	58	66	14	63	86	119	109	0
XP712	4	18	180	4	-	7163	5192	12356	62	68			14	63	86	119	95	0
Avg.					19	7061	5043	12104	61	67	57	66	14	63	86	119	102	0
Avg. Across All Treatments						6775	4760	11536	61	68	56	66	14	63	87	119	100	0

Appendix Table B-15: Variety Data Summary @ Beaumont

Variety	Treatment Number	Targeted Population Plants / sq. ft.	MC Total N Rate lbs/A	Rep	Actual Population Plants / sq. ft.	M.C. Yield Lbs/ac 12% M.	Ratoon Yield Lbs/ac 12% M.	Total Yield Lbs/ac 12% M.	M.C. % Whole	M.C. % Total	R.C. % Whole	R.C. % Total	M.C. Days to Emerg	M.C. Days to PD	M.C. Days to Head	M.C. Days to Mat	M.C. Plant Ht. (cm)	% Lodge
XP710	1	9	150	1	7	7616	4684	12300	54	67	46	69	13	66	88	118	100	0
XP710	1	9	150	2	8	7798	4595	12393	54	66	42	66	13	66	88	118	107	0
XP710	1	9	150	3	8	8009	5148	13157	57	68	46	67	13	66	88	118	100	0
XP710	1	9	150	4	10	7761	5020	12781	55	69			13	66	88	118	102	0
Avg.					8	7796	4862	12658	55	68	45	67	13	66	88	118	102	0
XP710	2	18	150	1	14	8015	4813	12828	53	67	45	66	13	66	88	118	101	0
XP710	2	18	150	2	13	7946	4501	12447	50	66	40	65	13	66	88	118	102	0
XP710	2	18	150	3	20	8193	5201	13394	52	67	46	66	13	66	88	118	103	0
XP710	2	18	150	4	18	8364	5020	13384	53	67			13	66	88	118	99	0
Avg.					16	8129	4884	13013	52	67	43	65	13	66	88	118	101	0
XP710	3	9	180	1	-	8528	5477	14005	53	66	43	67	13	66	88	118	105	0
XP710	3	9	180	2	-	8025	4821	12846	52	66	43	66	13	66	88	118	104	0
XP710	3	9	180	3	-	8790	4856	13646	54	66	39	66	13	66	88	118	103	0
XP710	3	9	180	4	-	8537	4715	13252	56	67			13	66	88	118	103	0
Avg.					8	8470	4967	13437	54	66	42	67	13	66	88	118	104	0
XP710	4	18	180	1	-	8196	5410	13606	52	66	43	66	13	66	88	118	107	0
XP710	4	18	180	2	-	8391	5054	13444	54	66	42	67	13	66	88	118	100	0
XP710	4	18	180	3	-	8663	5381	14043	57	68	42	66	13	66	88	118	107	0
XP710	4	18	180	4	-	8635	5164	13799	52	66			13	66	88	118	103	0
Avg.					16	8471	5252	13723	54	66	42	67	13	66	88	118	104	0
Avg. Across All Treatments						8217	4991	13208	54	67	43	67	13	66	88	118	103	0

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Appendix Table C-1. Rice support prices in dollars/cwt 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, 2003 prices)

Variety	Location and Planting Date			
	Beaumont		Eagle Lake	
	April 1	May 13	March 19	May 14
Bengal	7.90	8.32	8.13	7.95
Saber	8.50	8.54	-	-
TX8181	8.44	8.82	8.23	8.23
Cypress	8.23	8.44	-	-
Francis	7.80	8.23	7.90	7.74
Cheniére	8.44	8.76	7.80	7.80
Jefferson	8.55	8.55	8.12	8.17
Cocodrie	8.44	8.60	8.01	8.07
TX9092	8.49	8.60	7.80	8.22
CLXL8	8.23	8.39	7.53	7.59
CL161	8.23	8.44	8.28	7.86
XP712	8.02	7.89	7.81	7.63
XL7	8.28	6.53	7.59	7.37
XL8	8.33	8.39	7.70	7.65
XP710	7.85	7.69	7.11	7.22

Appendix Table C-2.

2003 Economic Analysis for Variety Screening at Eagle Lake

Variety	Targeted	N Rate	MC Yield	MC % Whole	MC % Total	MC Gross Income (\$/A)	MC Net Income	RC Yield	RC % Whole	RC % Total	RC Gross Income (\$/A)	RC Net Income	Total Net Income
	Plants / ft ²						@ 2003 Price \$/A					@ 2003 Price \$/A	RC + MC (\$/A)
Cocodrie	12	150	8216	57	67	658.10	-9.77	1113	59	70	89.15	37.15	27.38
	24	150	8422	55	67	674.60	6.73	1821	59	70	145.86	93.86	100.59
	12	200	8137	58	68	651.77	-16.10	1488	58	70	119.19	67.19	51.09
	24	200	8416	58	67	674.12	6.25	1858	58	70	148.83	96.83	103.08
			8298	57	67	664.65	-3.22	1570	59	70	125.76	73.76	70.54
Jefferson	12	150	8101	57	69	657.80	-10.07	1631	51	68	132.44	80.44	70.37
	24	150	8316	58	69	675.26	7.39	1292	53	69	104.91	52.91	60.30
	12	200	8273	55	69	671.77	3.90	2054	54	68	166.78	114.78	118.68
	24	200	8316	58	69	675.26	7.39	1498	53	69	121.64	69.64	77.03
			8252	57	69	670.02	2.15	1619	53	69	131.44	79.44	81.59
XL 8	9	150	8543	49	69	657.81	-53.19	3309	47	69	254.79	202.79	149.60
	18	150	8661	49	68	666.90	-44.10	3467	51	70	266.96	214.96	170.86
	9	180	8660	49	69	666.82	-44.18	3332	52	70	256.56	204.56	160.38
	18	180	8992	50	69	692.38	-18.62	3489	56	71	268.65	216.65	198.04
			8714	49	69	670.98	-40.02	3399	52	70	261.74	209.74	169.72
XL 7	9	150	8170	49	68	620.10	-90.90	4040	52	70	306.64	254.64	163.74
	18	150	8489	49	68	644.32	-66.68	4396	51	68	333.66	281.66	214.97
	9	180	8383	48	69	636.27	-74.73	3957	48	69	300.34	248.34	173.61
	18	180	7517	48	68	570.54	-140.46	4222	45	68	320.45	268.45	127.99
			8140	49	68	617.81	-93.19	4154	49	69	315.27	263.27	170.08
XP 712	9	150	8176	58	68	638.55	-72.45	3624	60	70	283.03	231.03	158.58
	18	150	8624	59	67	673.53	-37.47	3980	63	70	310.84	258.84	221.37
	9	180	8698	58	67	679.31	-31.69	4245	62	70	331.53	279.53	247.85
	18	180	9076	59	67	708.84	-2.16	4475	62	70	349.50	297.50	295.33
			8644	59	67	675.06	-35.94	4081	62	70	318.73	266.73	230.78
XP 710	9	150	9706	42	65	690.10	-20.90	3366	48	70	239.32	187.32	166.42
	18	150	10097	44	66	717.90	6.90	3966	47	69	281.98	229.98	236.88
	9	180	8047	41	64	572.14	-138.86	3692	48	70	262.50	210.50	71.64
	18	180	9784	42	66	695.64	-15.36	4275	47	69	303.95	251.95	236.59
			9409	42	65	668.94	-42.06	3825	48	70	271.94	219.94	177.88
Bengal	12	150	7628	61	69	620.16	-47.71	1343	61	70	109.19	57.19	9.47
	24	150	8091	63	69	657.80	-10.07	1961	62	70	159.43	107.43	97.36
	12	200	7767	62	70	631.46	-36.41	2126	62	70	172.84	120.84	84.43
	24	200	8471	65	70	688.69	20.82	2476	61	70	201.30	149.30	170.12
			7989	63	70	649.53	-18.34	1977	62	70	160.69	108.69	90.35
CLXL 8	12	150	8575	49	68	645.70	-65.30	3457	52	70	260.31	208.31	143.01
	24	150	8621	48	67	649.16	-61.84	3474	49	69	261.59	209.59	147.75
	12	200	8840	48	68	665.65	-45.35	3610	54	71	271.83	219.83	174.49
	24	200	8794	48	67	662.19	-48.81	3743	56	70	281.85	229.85	181.04
			8708	48	68	655.67	-55.33	3571	53	70	268.90	216.90	161.57
CL 161	12	150	7717	59	69	638.97	-28.90	2347	56	70	194.33	142.33	113.43
	24	150	7948	59	69	658.09	-9.78	2501	58	70	207.08	155.08	145.31
	12	200	7528	60	69	623.32	-44.55	2134	57	69	176.70	124.70	80.14
	24	200	7802	60	70	646.01	-21.86	2153	57	69	178.27	126.27	104.40
			7749	60	69	641.60	-26.27	2284	57	70	189.09	137.09	110.82

Continued on next page

Appendix Table C-2 continued

2003 Economic Analysis for Variety Screening at Eagle Lake

Variety	Plants / ft ²	N Rate	MC Yield	MC % Whole	MC % Total	MC Gross Income (\$/A)	MC Net Income	RC Yield	RC % Whole	RC % Total	RC Gross Income (\$/A)	RC Net Income	Total Net Income
							@ 2002 Price \$/A					@ 2002 Price \$/A	@ 2002 Price RC + MC (\$/A)
TX 9092	12	150	7983	62	69	622.67	-45.20	3997	58	70	311.77	259.77	214.57
	24	150	8316	61	69	648.65	-19.22	4142	57	69	323.08	271.08	251.85
	12	200	7961	62	69	620.96	-46.91	4009	51	68	312.70	260.70	213.79
	24	200	7951	60	69	620.18	-47.69	4140	56	69	322.92	270.92	223.23
			8053	61	69	628.11	-39.76	4072	56	69	317.62	265.62	225.86
TX 8181	12	150	6891	62	69	567.13	-100.74	1760	57	69	144.85	92.85	-7.89
	24	150	7500	59	68	617.25	-50.62	1694	55	68	139.42	87.42	36.80
	12	200	6804	61	69	559.97	-107.90	2084	55	68	171.51	119.51	11.61
	24	200	7262	60	69	597.66	-70.21	2153	56	69	177.19	125.19	54.98
			7114	61	69	585.50	-82.37	1923	56	69	158.24	106.24	23.88
Cheniere	12	150	7579	50	69	591.16	-76.71	1472	59	70	114.82	62.82	-13.89
	24	150	8091	52	69	631.10	-36.77	2138	59	69	166.76	114.76	77.99
	12	200	7810	49	70	609.18	-58.69	1441	58	69	112.40	60.40	1.71
	24	200	8017	53	70	625.33	-42.54	1927	60	70	150.31	98.31	55.76
			7874	51	70	614	-54	1745	59	70	136.07	84.07	30.39
Francis	12	150	7833	54	69	618.81	-49.06	1097	54	67	86.66	34.66	-14.40
	24	150	7819	55	68	617.70	-50.17	1249	54	67	98.67	46.67	-3.50
	12	200	8291	51	68	654.99	-12.88	1077	57	68	85.08	33.08	20.20
	24	200	8532	54	69	674.03	6.16	1375	55	67	108.63	56.63	62.78
			8119	54	69	641.38	-26.49	1200	55	67	94.76	42.76	16.27

Appendix Table C-3.

2003 Economic Analysis for Variety Screening at Beaumont

Variety	Targeted		MC	MC	MC	MC Gross	MC Net Income		RC	RC	RC	RC Gross	RC Net Income		Total Net Income	
	Plants /	N Rate					Yield	% Whole					% Total	Income (\$/A)	@ 2003 Price	@ 2003 Price
Cocodrie	12	170	6817	61	70	575.35	6.53	1973	62	68	166.52	114.52	121.06			
	24	170	7284	62	70	614.77	45.95	2305	60	68	194.54	142.54	188.49			
	12	220	7358	62	71	621.02	52.20	2021	61	68	170.57	118.57	170.77			
	24	220	7437	66	72	627.68	58.86	2293	58	67	193.53	141.53	200.39			
			7224	63	71	609.71	40.89	2148	60	68	181.29	129.29	170.18			
Jefferson	12	170	6308	64	71	539.33	-29.49	1897	60	70	162.19	110.19	80.71			
	24	170	6712	63	71	573.88	5.06	2102	58	70	179.72	127.72	132.78			
	12	220	6368	63	71	544.46	-24.36	1635	61	69	139.79	87.79	63.44			
	24	220	7008	62	71	599.18	30.36	2129	61	70	182.03	130.03	160.39			
			6599	63	71	564.21	-4.61	1941	60	70	165.93	113.93	109.33			
XL 8	9	150	7950	60	71	662.24	45.42	3365	60	69	280.30	228.30	273.72			
	18	150	8101	62	71	674.81	57.99	3590	59	69	299.05	247.05	305.04			
	9	180	8383	58	70	698.30	81.48	2994	59	69	249.40	197.40	278.88			
	18	180	8189	60	71	682.14	65.32	3534	61	70	294.38	242.38	307.71			
			8156	60	71	679.37	62.55	3371	60	69	280.78	228.78	291.34			
XL 7	9	150	6906	60	71	571.82	-32.70	4204	54	69	348.09	296.09	263.39			
	18	150	7256	59	71	600.80	-3.72	4076	55	69	337.49	285.49	281.77			
	9	180	7417	58	72	614.13	9.61	4227	52	70	350.00	298.00	307.60			
	18	180	7333	55	70	607.17	2.65	4705	53	70	389.57	337.57	340.23			
			7228	58	71	598.48	-6.04	4303	54	70	356.29	304.29	298.25			
XP 710	9	150	7796	55	68	611.99	-4.83	4862	45	67	381.67	329.67	324.83			
	18	150	8129	52	67	638.13	21.31	4884	43	65	383.39	331.39	352.70			
	9	180	8470	54	66	664.90	48.07	4967	42	67	389.91	337.91	385.98			
	18	180	8471	54	66	664.97	48.15	5252	42	67	412.28	360.28	408.44			
			8217	54	67	645.00	28.18	4991	43	67	391.81	339.81	367.99			
XP 712	9	150	6359	61	68	509.99	-58.83	4577	55	65	367.08	315.08	256.25			
	18	150	6693	61	68	536.78	-32.04	4480	54	65	359.30	307.30	275.25			
	9	180	6987	61	67	560.36	-8.46	4942	57	66	396.35	344.35	335.89			
	18	180	7061	61	67	566.29	-2.53	5043	57	66	404.45	352.45	349.92			
			6775	61	68	543.36	-25.47	4761	56	66	381.79	329.79	304.33			
Bengal	12	170	4929	58	68	389.39	-227.43	3810	58	69	300.99	248.99	21.56			
	24	170	5525	60	68	436.48	-180.35	3751	58	69	296.33	244.33	63.98			
	12	220	5302	59	68	418.86	-197.96	3899	58	69	308.02	256.02	58.06			
	24	220	5540	60	69	437.66	-179.16	3953	58	70	312.29	260.29	81.13			
			5324	59	68	420.60	-196.22	3853	58	69	304.41	252.41	56.18			
CL 161	12	170	6315	61	67	519.72	-97.10	3116	62	68	256.45	204.45	107.35			
	24	170	6828	61	68	561.94	-54.88	3178	62	68	261.55	209.55	154.67			
	12	220	6472	60	67	532.65	-84.17	2991	62	67	246.16	194.16	109.98			
	24	220	6817	60	68	561.04	-55.78	3015	63	68	248.13	196.13	140.35			
			6608	61	68	543.84	-72.98	3075	62	68	253.07	201.07	128.09			
CLXL 8	12	170	7119	58	70	585.89	17.07	2801	58	69	230.52	178.52	195.60			
	24	170	7597	60	71	625.23	56.41	3756	58	70	309.12	257.12	313.53			
	12	220	7761	57	70	638.73	69.91	3297	58	70	271.34	219.34	289.25			
	24	220	7969	58	70	655.85	87.03	3213	58	70	264.43	212.43	299.46			
			7612	58	70	626.43	57.61	3267	58	70	268.85	216.85	274.46			

Continued on next page

Appendix Table C-3 continued

2003 Economic Analysis for Variety Screening at Beaumont

Variety	Plants / ft ²	N Rate	MC Yield	MC % Whole	MC % Total	MC Gross Income (\$/A)	MC Net Income	RC Yield	RC % Whole	RC % Total	RC Gross Income (\$/A)	RC Net Income	Total Net Income
							@ 2002 Price \$/A					@ 2002 Price \$/A	@ 2002 Price RC + MC (\$/A)
Francis	12	170	5821	53	65	454.04	-114.78	2405	56	65	187.59	135.59	20.81
	24	170	6373	56	67	497.09	-71.73	2327	56	64	181.51	129.51	57.78
	12	220	6105	54	65	476.19	-92.63	2342	58	66	182.68	130.68	38.05
	24	220	6429	54	65	501.46	-67.36	2408	57	65	187.82	135.82	68.47
			6182	54	66	482.20	-86.62	2371	57	65	184.90	132.90	46.27
Cheniere	12	170	6910	61	71	583.20	14.38	1996	60	68	168.46	116.46	130.85
	24	170	7265	62	71	613.17	44.35	2239	60	68	188.97	136.97	181.32
	12	220	7230	61	71	610.21	41.39	2157	59	67	182.05	130.05	171.44
	24	220	7403	62	71	624.81	55.99	2422	59	66	204.42	152.42	208.41
			7202	62	71	607.85	39.03	2204	60	67	185.98	133.98	173.00
TX 9092	12	170	6504	62	72	552.19	-16.63	3886	61	70	329.92	277.92	261.29
	24	170	7129	61	71	605.25	36.43	4117	62	71	349.53	297.53	333.97
	12	220	7022	62	71	596.17	27.35	3602	62	71	305.81	253.81	281.16
	24	220	7022	62	71	596.17	27.35	3865	62	70	328.14	276.14	303.49
			6919	62	71	587	19	3868	62	71	328.35	276.35	294.98
TX 8181	12	170	6041	61	70	509.86	-58.96	2932	60	66	247.46	195.46	136.50
	24	170	6550	62	71	552.82	-16.00	2993	60	66	252.61	200.61	184.61
	12	220	6200	61	69	523.28	-45.54	2638	60	66	222.65	170.65	125.11
	24	220	6677	62	70	563.54	-5.28	2818	61	67	237.84	185.84	180.56
			6367	62	70	537.37	-31.45	2845	60	66	240.14	188.14	156.69
Cypress	12	170	5867	59	68	482.85	-85.97	2818	58	67	231.92	179.92	93.96
	24	170	6405	61	68	527.13	-41.69	2840	59	66	233.73	181.73	140.04
	12	220	6172	59	67	507.96	-60.86	2960	59	67	243.61	191.61	130.74
	24	220	6524	60	68	536.93	-31.89	2844	59	67	234.06	182.06	150.17
			6242	60	68	513.72	-55.10	2866	59	67	235.83	183.83	128.73
Saber	12	170	5500	64	69	467.50	-101.32	3198	62	69	271.83	219.83	118.51
	24	170	5884	64	69	500.14	-68.68	3110	61	69	264.35	212.35	143.67
	12	220	6090	65	69	517.65	-51.17	3308	62	69	281.18	229.18	178.01
	24	220	6187	65	69	525.90	-42.93	3070	61	68	260.95	208.95	166.03
			5915	65	69	502.80	-66.02	3172	62	69	269.58	217.58	151.55

Appendix Table D-1

Delayed Planting at Beaumont , 2003, plants/ft², N rate (lbs/A) main crop yield, milling and economic analysis

Variety	Targeted		Main Crop			Income \$/A		Economic Ranking	Yield Ranking
	Plants/ft ²	N rate	Yield	% Whole	Total	MC Gross	MC Net		
XL8	18	180	7979	61	70	669.44	100.92	1	1
CLXL8	18	180	7741	61	70	649.47	80.95	2	3
XP712	18	180	7882	NA	NA	621.89	53.37	3	2
Cocodrie	24	220	6956	64	71	598.22	29.70	4	6
Francis	24	220	7253	60	68	596.92	28.40	5	5
Cheniere	24	220	6706	66	72	587.45	18.93	6	8
Jefferson	24	220	6798	64	70	581.23	12.71	7	7
TX8181	24	220	6493	67	72	572.68	4.16	8	9
XP710	18	180	7336	53	65	564.14	-4.38	9	4
TX9092	24	220	6212	65	70	534.23	-34.29	10	10
Bengal	24	220	5879	65	71	489.13	-79.39	11	12
CL161	24	220	5776	63	69	487.49	-81.03	12	13
Cypress	24	220	5673	65	70	478.80	-89.72	13	14
Saber	24	220	5439	65	69	464.49	-104.03	14	15
XL7	18	180	6203	44	52	405.06	-163.46	15	11

Appendix Table D-2

Delayed Planting at Eagle Lake 2003, plants/ft², N rate (lbs/A) main crop yield, milling and economic analysis

Variety	Targeted		Main Crop			Income \$/A		Economic Ranking	Yield Ranking
	Plants/ft ²	N rate	Yield	% Whole	Total	MC Gross	MC Net		
XP712	18	180	8273	55.1	65.5	631.23	62.71	1	1
Francis	24	200	6904	52.8	66	534.37	-34.15	2	3
CLXL8	18	180	7026	48.8	67.1	533.27	-35.25	3	2
Cheniere	24	200	6748	51.8	67.7	526.34	-42.18	4	4
Bengal	24	200	6581	60	67.5	523.19	-45.33	5	5
XL8	18	180	6510	50.1	67.2	498.02	-70.51	6	6
TX9092	24	200	5496	59.3	68.5	451.77	-116.75	7	8
XP710	18	180	6235	43.2	65.9	450.17	-118.35	8	7
TX8181	24	200	5353	60.3	67.7	440.55	-127.97	9	9
Cocodrie	24	200	5303	57.9	66.9	427.95	-140.57	10	10
CL161	24	200	4978	54.6	66	391.27	-177.25	11	12
Jefferson	24	200	4620	59.1	68.4	377.45	-191.07	12	13
XL7	18	180	5009	44.8	67.2	369.16	-199.36	13	11