

**Belize Sustainable Agriculture, Ltd.**  
**Joint Venture Farming Report – August 3, 2013**

**General Overview**

During the week ended August 3, 2013 weather conditions were sunny with a bit of rain fall during the week. San Carlos received from 1 ½ to 2 inches of rainfall this week. The forecast is for some more rain later in the week. Soil moisture is currently at the “moist” stage in Blue Creek and in San Carlos and conditions are close to ideal at this stage.

**Thiessen Family Farms – 286 acres (143 Irrigated / 143 Dry – 100% Corn)**

Corn was planted May 28, 2013. They did have a problem with worms early on as did all farmers. All major applications are finished; they will only need to keep a close eye on corn ear worm and spider mites, which are discussed below. The corn is now about 104 inches tall and harvest continues to be expected in early October. A very high percentage of corn plants are coming out with 2 good ears, which is characteristic of the DeKalb 7088 under ideal growing conditions.



*Thiessen corn tassel beginning to dry*



*Mike Mueller in Blue with the Thiessen Clan*



*Stalks retain their beautiful, wide, dark green leaves:  
The crop looks very good!*



*The kernels on a sample of ears were counted:  
The average ear has 694 kernels!*



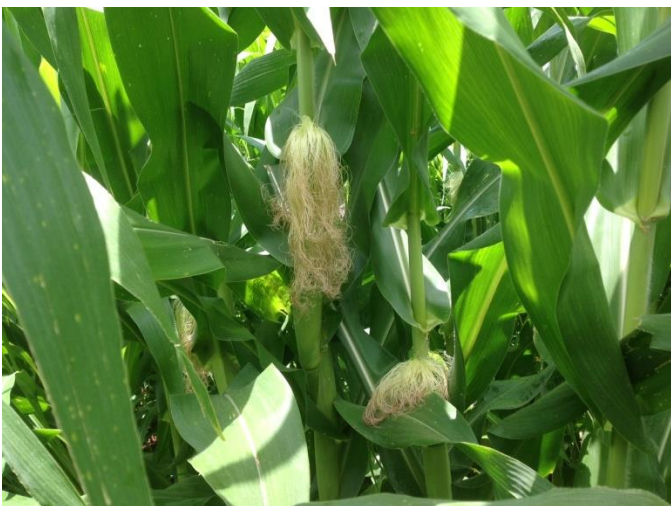
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Insect Control Comments

A light infestation of corn ear worm was seen and rapidly treated with minimal damage to the crop. Spider mites also appeared in the last few days and we were shocked to discover that there was a shortage of agro-chemicals to treat them in Belize! After considerable efforts were made by us to get supplies into the country, this situation should be remedied by 8/8 and an aerial spray has been planned for 8/9. The San Carlos area did get some rain this last week which also helps with mite control. While no material damage to the crop is currently expected, this brings to light another area where better planning is required.

**TF Plantations – 342 acres (259 Irrigated / 83 Dry – 100% Corn)**

About 1 ½ inches of rain were received at the TF farm this past week, which allowed active fertilizer program implementation. 75 lbs 46-0-0 was applied to TF1 and TF3 this past week; TF2 received 150 lbs 46-0-0 via airplane. These were the final applications of nitrogen



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The above pictures are from Field TF1, TF2T and TF3, also known as “the small pivot field”, which was planted on June 10-12 with seed varieties DeKalb 7088, Syngenta and Pioneer 30F35. TF2T is a trial plot which has strips of all 3 varieties, double the fertilizer, and is 100% irrigated. This is good looking corn which is in its growth spurt; it looks like the combination of super fast growing and the agro-chemicals have finally taken care of the worms.

TF1 and TF2T are 8’ tall; TF3 is 7’ tall. Fields TF1 and TF2T are in full tassel and silk is starting to come out, While TF3 is a little behind TF1 and TF2T in terms of silking, all the TF silks look particularly long and lush, considerably more so than the Thiessen fields. Given the proximity of the Thiessen and TF fields and their similar soil types, we will be monitoring plot yields and working over the next couple of corn crops to see whether this better silking might be the result of TF’s heavier applications of base fertilizers.



Field #4 (Picture #3)



Field #4 (Picture #4)

The above pictures are from Field TF4, also known as “the Large Pivot field”; it was planted 27-28 June, 2013. Seed varieties planted are Pioneer 30F35 (75 acres), DeKalb - 7088 (23 acres) and Syngenta (105 acres). The corn in pictures #3 and #4 is very clean looking and it appears that Brian has been able to control the pests quite well. On August 2<sup>nd</sup> another 75 lbs (46-0-0) was applied via airplane. These plants are 42-48 inches tall.

**D&H Farms – 224 acres (0 Irrigated / 223 Dry – 125 acres Corn / 99 acres Soybeans)**

### **Soybeans**

The soybeans were planted June 27-28 and are currently about 10 to 12 inches tall. Soil conditions are now on the dry side, although a half inch of rain fell on this field during the past week. Grass control chemicals have already been applied; however another grass control via cultivator will be attempted this week, weather permitting. The plants are looking good and they seem to have recovered well from the really wet conditions of several weeks ago. An insecticide application against worms was applied via airplane this week.

The picture below shows a small part of the field that has more grass problems. This will be cultivated for grass control if weather permits.



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**Corn**

In pictures #1 and 2 below, which is a small field of some 24 acres, the corn is between 7 and 8 feet high. It is very healthy looking corn, and even though Pete was not been able to cultivate for weed control due to the soil being waterlogged in early July, this does not seem to have affected the corn too much. This field received 2.3 inches of rain this week. The corn is in full tassel and silk looks very healthy.

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(Picture #1)



(Picture #2)



(Picture #3)



(Picture #4)



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Picture # 3 is the picture we have been waiting for! This is field DHC2, the last of the JV crops to be planted this season. This field was planted on Friday July 26<sup>th</sup> and the corn is now 4 inches tall. This field received a glyphosate burn down application hours before planting. The field is cleaning up nicely from the burn down. More information on seed rate and fertilizer rates will follow in next week's report. The late planting means that this crop will probably be harvested around December 1<sup>st</sup>, which should not pose a problem in terms of the next crop which is typically planted in late December. Our view remains very much "better late than never"!

**Neufeld Family Farms – 117 acres (0 Irrigated / 117 – 100% Soybeans)**



Field #JN4- Planted June 28, 2013: 20 acres



Field #JN3- Planted June 27, 2013: 17 acres



Field # JN2 - Planted June 27, 2013: 20 acres



Field #JN1 – Planted June 27, 2013: 60 acres

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Jacob Neufeld finished planting on June 28, 2013, and despite what looked at first like a low stand on his field, the crop is now starting to look quite good. These fields have received 2 inches of rain in the last week and the soybeans are showing signs of strong and vigorous growth, with good leaf formation and color.

**Conclusion and Summary**

Overall the crops continue to look really good. I am pleased with how all the fields have improved, with the corn fields all looking exceptionally good. Blue Creek started off on the dry side but at week's end it was just right for moisture, with San Carlos being perfect. Indian Creek, a neighboring community to San Carlos, had already been having a bit of a spider mite problem and mites then showed up in San Carlos this week. Getting agro chemicals to deal with these spider mites has been problematic as domestic dealers had inadequate stocks and were slow to respond to reports of infestations. Stocking of certain critical agro chemicals in future JV campaigns will be worth looking into. Based on progress so far, I continue to project a better than average crop.

No noteworthy reports of transactions in corn or soybeans, although local Orange Walk buyers are now reported to be paying \$0.26-\$0.27/lb for corn (slightly weaker). Soybean demand remains steady around \$0.60/lb. Corn is now a penny weaker than the "middle case" of our original JV program scenario. I gather that another feed mill in Cayo has started up a soybean processing mill. This will probably mean more demand for the soybeans. Milo prices are \$0.23 – 0.24/lb.

Generally speaking, the crops in the Cayo and Orange Walk Districts (where most of Belize's corn and soybeans are grown) continue to look good, which would indicate a large harvest. Silos still remain quite empty at the moment, and earlier crops are likely to achieve a better price so the Thiessen crop should do well as it will be one of the first to be harvested in the area. We now expect that storage will need to be organized for part of our crop so that it is not sold at a seasonally weak point. Our JV partners are having discussions with local co-ops and we do not expect storage to be a problem. There continue to be reports that Guatemalan trucks have been picking up any and all grain that is available within Orange Walk, as was the case recently with milo. If this trend is repeated in corn, we should see some price improvement, although the continued weakness in the US corn price will limit upside potential.

Thanks!

Abe Dyck

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| Grower         | Location | Field #        | Acres                          | Irr?   | Soil Type        | Crop | Seed Variety                                                    | Plant Date | Stand - Date                                            | Fertilizer Program                                                                                       | Comments                                                                                                                                                                                                                                                                                    |
|----------------|----------|----------------|--------------------------------|--------|------------------|------|-----------------------------------------------------------------|------------|---------------------------------------------------------|----------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Thiessen       | SC       | 1              | 143.0<br>142.8<br><u>285.8</u> | Y      | Sandy loam (Red) | Corn | DeKalb 7088<br>(25,000 seeds/acre)                              | May 28     | 6.5' - 7/13<br>7.5' - 7/19<br>8.5' - 7/27<br>8.5' - 8/3 | 170lbs/acre<br>18-46-0<br>183lbs/acre<br>46-0-0                                                          | Fertilizing complete. Total pure N this season = 115lbs/acre, versus historic 40-50lbs/acre. Note lack of "K" vs TF fields.<br>Silking underway late July<br>Silk starting to dry off on some ears by early August`<br><br><b>Very Healthy</b>                                              |
| TF Plantations | SC       | TF1            | 57.99<br>14.00<br><u>71.99</u> | Y<br>N | Sandy loam (Red) | Corn | DeKalb 7088<br>(31,000 seeds/acre)                              | June 10    | 18" – 7/13<br>36-42"–7/19<br>48" – 7/27<br>8' – 8/3     | 220lbs/acre<br>10-26-26<br>110lbs/acre<br>0-0-60<br>65lbs/acre<br>40-0-0-6<br>148 lbs/acre<br>46-0-0     | Fertilizer program calls for 330lbs/acre base Fertilizer and 150 lbs/acre pure N, but only 118 lbs N applied. Base is 200% and N 120% higher than historic levels and consistent with requirements for 120-150Bu/acre yields<br>Silking underway 8/3<br><br><b>Looking really promising</b> |
| TF Plantations | SC       | TF2T Test Plot | 14.72                          | Y      | Sandy loam (Red) | Corn | DeKalb 7088<br>Syngenta<br>Pioneer 30F35<br>(38,000 seeds/acre) | June 11    | 18" – 7/13<br>36-42"–7/19<br>47" – 7/27<br>8' – 8/3     | 330 lbs/ acre<br>10-26-26<br>330 lbs/ acre<br>0-0-60<br>140lbs/acre<br>40-0-0-6<br>260lbs/acre<br>46-0-0 | Test Plot getting major fertilizer boost (up to 100% extra) vs. TF1 and TF3 (which are already way above historic levels)<br>Harvest will be monitored for different result vs. TF1 & TF3<br>Silking underway 8/3<br><br><b>Looking really promising</b>                                    |
| TF Plantations | SC       | TF3            | 46.40<br>5.59<br><u>51.99</u>  | Y<br>N | Sandy loam (Red) | Corn | Pioneer 30F35<br>(31,000 seeds/acre)                            | June 12    | 18" – 7/13<br>36-42"–7/19<br>46" – 7/27<br>7' – 8/3     | 220lbs/acre<br>10-26-26<br>110lbs/acre<br>0-0-60<br>65lbs/acre<br>40-0-0-6<br>148 lbs/acre               | Same strategy as TF1<br>Little bit slower in silking 8/3<br><br><br><br><br><br><br><br><br><br><b>Looking really promising</b>                                                                                                                                                             |



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|                       |    |      |                           |        |                  |      |                                                                                           |                |                                                               |                                                                      |                                                                                                                                                                                                                                                                              |
|-----------------------|----|------|---------------------------|--------|------------------|------|-------------------------------------------------------------------------------------------|----------------|---------------------------------------------------------------|----------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>TF Plantations</b> | SC | TF4  | 140.02<br>63.56<br>203.58 | Y<br>N | Sandy loam (Red) | Corn | Pioneer 30f35<br>75 acres<br>DeKalb 7088 23 ac.<br>Syngenta 105 ac.<br>(27,000 seeds/ac). | June<br>27-28  | 7-8" – 7/13<br>12-14" – 7/19<br>30-36" – 7/27<br>42-46" – 8/3 | 220lbs/ac<br>18-46-0<br>110lbs/ac<br>0-0-60<br>161lbs/acre<br>46-0-0 | Same strategy as TF1, some difference in fertilizers due to local availability issues.<br><br><b>Looking really promising</b>                                                                                                                                                |
| <b>D &amp; H</b>      | BC | DHS1 | 99.37                     | N      | Heavy Black      | Soy  | Huasteca 400<br>( Seeds/acre<br>33.44 lbs/ac)                                             | June<br>27-29  | 3-4" – 7/13<br>7-8" – 7/19<br>8-10" – 7/27<br>10-12" – 8/3    | 40lbs/ac<br>15-15-15                                                 | Summer soybean trial in heavy black Blue Creek soil.<br>Limited Fertilizer program due to modest soybean needs and local soil conditions. Compare with JN.<br>Crop Replanted June 27-28 after first seed had very low germination rates.<br><br><b>Now looking promising</b> |
| <b>D &amp; H</b>      | BC | DHC1 | 24.43                     | N      | Heavy Black      | Corn | DeKalb 7088<br>(Seeds/acre<br>26,000)                                                     | June 11        | 3.5' – 7/13<br>5' – 7/19<br>6.5' – 7/27<br>7-8' – 8/3         | 100lbs/acre<br>14-36-12                                              | Summer corn trial in heavy black non-irrigated Blue Creek soil.<br>Fertilizer program calls for 150lbs/acre base Fertilizer and 75 lbs/acre pure N. (low range but 50% above historic levels)<br><br><b>Mostly Very Healthy</b>                                              |
| <b>D &amp; H</b>      | BC | DHC2 | 100.56                    | N      | Heavy Black      | Corn | DeKalb 7088<br>Syngenta<br>Pioneer 30f35<br>(seed rate 28,000)                            | July 26-<br>27 | 4" – 8/3                                                      | 192 lbs/ac<br>14-36-12                                               | Same as DHC1<br><br><b>Planted; awaiting germination<br/>Looking good 8/3</b>                                                                                                                                                                                                |
| <b>Neufeld</b>        | SC | JN1  | 60.73                     | N      | Sandy loam (Red) | Soy  | CARDI 1088<br>28 lbs /acre                                                                | June 27        | 4-6" – 7/13<br>7-8" – 7/19<br>8-10" – 7/27<br>15-19" 8/3      | 120lbs/acre<br>15-15-15                                              | Summer soybean trial in sandy red soil. Fertilizer program calls for moderate increase in base and foliar applications<br><br><b>Looking good given below average germination rate</b>                                                                                       |

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|                |    |     |       |   |                  |     |                             |         |                                                            |                         |                                                                             |
|----------------|----|-----|-------|---|------------------|-----|-----------------------------|---------|------------------------------------------------------------|-------------------------|-----------------------------------------------------------------------------|
| <b>Neufeld</b> | SC | JN2 | 20.17 | N | Sandy loam (Red) | Soy | CARDI 1088<br>28 lbs/acre   | June 27 | 4-6" – 7/13<br>7-8" – 7/19<br>8-10" – 7/27<br>15-18" – 8/3 | 120lbs/acre<br>15-15-15 | Same as JN1<br><br><b>Looking good given below average germination rate</b> |
| <b>Neufeld</b> | SC | JN3 | 16.56 | N | Sandy loam (Red) | Soy | Huasteca 400<br>28 lbs/acre | June 27 | 4-6" – 7/13<br>7-8" – 7/19<br>8-10" – 7/27<br>16-19" – 8/3 | 120lbs/acre<br>15-15-15 | Same as JN1<br><br><b>Looking good given below average germination rate</b> |
| <b>Neufeld</b> | SC | JN4 | 19.82 | N | Sandy loam (Red) | Soy | CARDI 1088<br>28 lbs/acre   | June 28 | 4-6" – 7/13<br>7-8" – 7/19<br>8-10" – 7/27<br>15-18" – 8/3 | 120lbs/acre<br>15-15-15 | Same as JN1<br><br><b>Looking good given below average germination rate</b> |