

Belize Sustainable Agriculture, Ltd.
Joint Venture Farming Report – February 24, 2014

General Overview

Weather conditions remained frustrating for this time of year as early in the past fortnight there were interspersed dry, warm days with occasional but significant thundershowers. These prevented fields from drying out fully and forced us to abandon some of the fields as we are too late in the season for certain crops. Some of the largest farmers in Blue Creek, where there is a preponderance of heavy, black soil, will not be planting any acreage this season! Thankfully in the San Carlos area there were only infrequent thundershowers, which is good both for the beans that need to be pulled and for the crops that still need some moisture; one should remember that San Carlos' red soil is quick to dry out. Soil conditions in the San Carlos area are now "moist to dry" and while they remain "wet" in Blue Creek.

In the last few days we have finally been getting the long anticipated dryer days and it seems that the dry season is at last arriving!

As a reminder, for those so inclined, you can follow Belize's weather on:

<http://www.hydromet.gov.bz/250-km-radar-loop>

Thiessen Family Farms – 215 acres (143 Irrigated / 72 Dry – 100% Red Kidney Beans)

Red Kidney Beans were planted December 9th, 17th, 21st, 2013 and are looking very good. The seed was imported from the USA with a seed count at planting of about 40,000 seeds/ acre, which has yielded an average of about 34,000 plants/ acre. We did plant counts in numerous areas and at some locations we measured counts as high as 38,000 plants /acre.

Other famers surrounding our farm have planted seeds both from the USA and locally collected seed. The imported seed is definitely performing better up to this stage. However, the lack of modern planting equipment might also play a role in the lower than desired germination rate among some of the other farmers using local seed.

The Thiessens have indicated that for the next crop Marlon Dyck, who has a GPS guided precision planter, will do all their planting. They have also expressed a desire to put all of their acres, including additional acreage they are seeking to lease, into the BSA JV program. This would total over 700 acres for the Summer 2014 season, of which over 400 acres would be irrigated.

The first 16 acres of Red Kidney Beans were pulled on the 21st of February and will be harvested 5 to 7 days after the pulling, once the beans have dried in the fields. The Thiessens expect to complete the pulling and harvesting over the next 2 weeks, subject to weather.

Red Kidney Bean harvesting entails the manual "pulling" of ripe bean plants (look for yellow leaf discoloration) after which the plants are placed upside down on the ground for the beans to dry for about 5 days. After this they are manually forked into a combine. The resulting beans are then processed through a sorter/cleaner (which the Thiessens have just purchased) and then typically bagged into 100lb bags. These bags can then be palletized and placed into containers for export or into trucks for land based export or wholesale domestic delivery.

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Thiessen RK Beans (Feb 20, 2014)



Thiessen RK Beans (Feb 20, 2014)



Thiessen RK Bean Pod count (Feb 7, 2014)

Yield Data for Thiessen fields

Sampled 10 plants- average 17.5 pods per plant, 3.4 beans per pod, 34,000 plant count, = 2,023,000 beans @ 700 beans per lb = 2,890lbs/acre. We do not have enough confidence in this methodology to forecast such a high yield. However a final yield of 1,500/2,000lbs/acre would be a 50%-75% increase on historic yields and a very positive outcome!

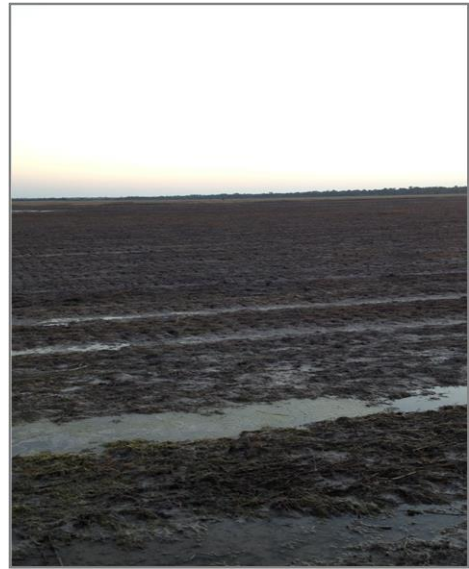
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Neufeld Family Farms – 336 acres total (100 acres Black Eyed Beans- 0 % Irrigated / 236 acres Rice – 100 % irrigated)

Jacob Neufeld planted 70 acres of Black Eyed Beans (“BEB”) on Feb 18th and 30 acres on Feb 21st for a total of 100 acres. Due to the heavy and late rains this season, with about half of the fields still being too wet to plant (see pictures below), a decision was made not to plant the remaining 110 acres. By the time these remaining acres might be planted, even assuming the weather would rapidly dry the fields, the resultant harvest date would be in mid-May, when the risk of showers is too great. As a reminder, if BEBs get wet during harvest, they discolor rapidly and lose 75% of their value.



Neufeld BEB Field (Feb 18, 2013)



Neufeld Rice Field (Feb 22, 2013)



Neufeld BEB Singulation (Feb 18, 2013)



Neufeld Rice Field (Feb 22, 2013)

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As can be seen in the two pictures on the right hand side of the page, the rice fields have been rolled and approximately 110 acres will be ready to plant rice by the end of this week (e.g. end of February). We are waiting for the remaining fields to dry up in order to complete land preparation. The first picture shows fields post rolling and the second picture shows them once a light cultivation has taken place. So far, this had been done on approximately 110 acres, which assists the drying of the fields. Ideally all these rice fields should have been planted by now, but due to last and this season's abnormally high rainfalls, nothing has been planted. However, with improving weather we should get all of the Neufeld rice fields planted in the next 2 weeks.

Marlon Dyck – 420 acres (Rice 100 % irrigated)

Marlon has applied a burn down to control the weeds and he has rolled the majority of his fields. The next step is a light cultivation, which will require waiting for another few days of dry weather to start. Once this has occurred, Marlon will be spending 100 percent of his time in the fields preparing for planting. Marlon currently anticipates that planting will be completed in the next 2 to 3 weeks.



Marlon Dyck Rice Field – Post Burn down (Feb 24, 2014)

Marlon Dyck Rice Field - Rolled (Feb 24, 2014)

Summary and Conclusion

We continue to be well pleased with how the Thiessen beans have developed and look forward to the results of the harvest over the next two weeks. The yield data look exceptionally good and we anxiously await to see whether they will be confirmed in the actual results. In the meanwhile, we are very thankful for the improved weather since last week.

Grain prices were unchanged from last week. However, the local grain co-ops have been trying to bring the price for corn up to BZD 0.29/lb (USD 8.12/Bu). The feed mills are resistant to any price increase even though there is a shortage of grains on the market, and it will be interesting to watch how this evolves in the coming weeks.

Thanks! Ruben Froese – JV Farming Operations Manager.

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Grower	Location	Field #	Acres	Irr?	Soil Type	Crop	Seed Variety	Plant Date	Stand - Date	Fertilizer Program	Comments
Thiessen Brothers	SC	T1	24 16 <hr/> 40	Y N	Sandy loam (Red)	RK Beans	Red Kidney (40,000 seeds/acre) Pink panther/ Clause	Dec 9, 2013	23"-2/7	14-36-12 35.8lbs/acre 18-46-0 79.3 lbs/acre	Feb 7: Beans looking very good Feb 21: 16 acres pulled, balance to be harvested Feb 26-27
Thiessen Brothers	SC	T2	47 <hr/> 47	Y N	Sandy loam (Red)	RK Beans	Red Kidney (40,000 seeds/acre) Pink panther/ Clause	Dec 17, 2013	23"-2/7	14-36-12 35.8lbs/acre 18-46-0 79.3 lbs/acre	Feb 7: Beans looking very good Feb 21: Harvest expected in 1-2 weeks
Thiessen Brothers	SC	T3	108 20 <hr/> 128	Y N	Sandy loam (Red)	RK Beans	Red Kidney (40,000 seeds/acre) Pink panther/ Clause	Dec 21, 2013	23"-2/7	14-36-12 35.8lbs/acre 18-46-0 79.3 lbs/acre	Feb 7: Beans looking very good Feb 21: Harvest expected in 1-2 weeks
Marlon Dyck	San Felipe		80	N	Sandy loam	Milo	Abandoned				Feb 7: Abandoned this season due to excess water
Marlon Dyck	Rio Bravo	210-212 220-225 231-236	420	Y	Heavy Black	Rice	(seeds/acre)				Feb 7: Not yet planted: excess water Feb 21: Burndown & rolled; waiting for cultivation. Planting in 2 weeks
Jacob S Neufled	San Felipe		209	N	Sandy Black	Black-eyed Beans	Black Eyed Bean (110,000 Seeds/acre) ? / Local	Feb 18-21 2014		15-15-15 115 lbs/acre K-Focus/P-Focus 8.5 L / acre	Feb 7: Not yet planted: excess water Feb 21: 100 acres planted Feb 18-21 Balance of acreage abandoned
Jacob S Neufeld	Rio Bravo	110-113 121-122	230	Y	Heavy Black	Rice	(seeds/acre)				Feb 7: Not yet planted: excess water Feb 21: Burndown, rolled, cultivated Planting in 1-2 weeks