

**Belize Sustainable Agriculture, Ltd.  
Joint Venture Farming Report – March 10, 2014**

**General Overview**

Weather conditions have now settled in to the typical Dry Season pattern: Hot, windy, with an occasional thundershower. These last will typically be quite scattered so from one group of fields to the next there can be material differences in moisture levels. Soil conditions on our JV rice fields in Blue Creek are now “moist tending to dry”. In San Carlos the soil is becoming very dry due to the red soil type.

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)**

The Red Kidney Beans were planted December 9<sup>th</sup>, 17<sup>th</sup>, and 21<sup>st</sup> and have performed well throughout the season. The seed was imported from the USA. Seed count at planting was 40,000 seeds/acre with an average of 34,000 plants/acre. We did plant counts in numerous areas and at some acres we got as high as 38,000 plants /acre.

Other farmers surrounding the Thiessen fields have planted seeds from the USA and locally collected seed. The imported seed is definitely performing better up to this stage. The lack of modern planting equipment might also play a role in the lower than ideal germination rate at neighboring farms.

The Thiessens have indicated that for the next crop they have asked 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 into the BSA JV program.

The first 16 acres of RKs were pulled on the 21<sup>st</sup> of February and the first beans were harvested on the 28<sup>th</sup> of February. To date the Thiessens harvested 100 acres of the JV RK beans, with yields ranging from 1,300-1,500 lbs/acre on the non-irrigated fields and 1,600-2,180 lbs/acre on the irrigated fields.



RK Beans Windrowed (March 6, 2014)



Thiessen RK Beans (March 6, 2014)

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Another encouraging indicator of crop quality has been the size of the Thiessen RK Beans. Spot checks of the Thiessen crop have shown bean size at around 190/100 grams. The range for RKs is between 160 and 250/100 grams, with the larger sizes being more highly prized. Historically Belize RKs have averaged around 210/100 grams, so the Thiessen crop has seen a roughly 10% improvement on bean size.

100% of the Thiessen JV RK Bean crop has now been “pulled” and should be 100% threshed by the end of this week (as always, subject to weather). We should have final crop data by the next JV report and expect to report that our RK bean yields were up between 60% and 90% versus historic Belize norms, through both more and larger beans. This major improvement was achieved by a combination of higher seed count, more intensive fertilization programs, and more proactive agri-chemical programs. Our crop cost will have risen to BZD 1,100-1,200/acre from an historical BZD 600-800/acre. But the resulting higher yields will have generated BZD 2,800 in revenue/acre versus BZD 1,700/acre in historical revenues. So an extra BZD 500/acre in spend will have generated an extra BZD 1,100/acre in revenue!

Cleaning and packaging should be completed for the RK Bean crop by the end of the following week, although the first container of beans could already be loaded for export during the course of this week. 100% of the JV’s share of the RK bean crop has been sold to two trading firms at an average of ~BZD 1.74/lb.

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

Jacob Neufeld (“JN”) planted 70 acres of Black Eyed Beans (“BEB”) on February 18<sup>th</sup> and 30 acres on February 21<sup>st</sup>, for a total of 100 acres. As we reported last time the remaining acreage (~110 acres) was abandoned as the ground was too wet to plant, and we had passed the “safe” final date for planting. The BEBs are 20 days into their growing stage; the stand is well set with good germination, although growth is a little less vigorous than we would have expected. This may be due to wet planting conditions (now abating), but we will be monitoring growth for additional fertilizer requirements.



JSN BEB Zoom – San Felipe (March 8, 2014)



JSN BEB Field – San Felipe (March 8, 2014)

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JN planted a first 160 acres of his rice fields on March 5, 6, and 7. This planting takes place on dry fields after which they are flooded, and then flushed. JN expects to complete planting the remaining 76 acres of rice fields by Wednesday, March 12. Current weather conditions are favorable so the rice crop appears to be able finally to get under way.



JSN Blue Creek Rice Fields – Flooded (March 8, 2014)



JSN Blue Creek Rice Fields – Drained (March 8, 2014)

**Marlon Dyck – 420 acres (Rice 100 % irrigated)**

Marlon has 170 acres that are ready to be flooded, with an additional 90 acres ready by Tuesday, for a total of 260 acres ready to plant on Wednesday, March 12. The remaining acres will be ready to plant the following week.



Marlon Dyck Rice Fields (March 8, 2014)



Marlon Dyck Rice Fields (March 8, 2014)

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**Summary and Conclusion**

The RK Bean crop looks to have been a great success. Barring any last minute weather catastrophes (and none are on the horizon) we expect a weighted average yield of 1600-1700 lbs/acre which will be sold at a weighted average price of BZD 1.736/lb., for total revenues of ~BZD 2,850/acre (All of the beans will go to the export market and should be shipped within the next 1-3 weeks, with very prompt payment). This revenue level compares with crop costs of ~ BZD 1,150/acre, for an overall margin of BZD 1,700/acre. These are truly outstanding financial results and should be seen as unusually high due to the current extremely attractive price for RK beans. However this RK bean crop confirms the strong potential of a winter bean crop as a source of both high revenue and natural crop rotation. Moreover, we believe that over time average yields could be raised to 2,000lbs+/acre through greater use of irrigation and further improvement in fertilization programs without a materially higher crop cost. .

The Rice crop is just starting, so it is impossible to make any forecasts at this time. What can be said is that we will be farming on proven ground that has historically delivered some of Belize's best rice crops. Moreover, local market conditions are very strong and are likely to remain that way as insufficient rice has been planted nationwide to satisfy rice demand. We therefore expect local prices to remain high for both "paddy" and "milled" rice, which should put us in a solid position when the time comes to market our rice crop.

As far as corn prices are concerned, the tug of war between co-ops and feed mills continues. Belize is expected to experience a shortfall in corn later this year, but there is supply coming from Spanish Lookout farmers whose traditional export market to Guatemala has been curtailed due to Guatemalan Customs crackdowns on "informal" cross-border trade. While we expect this situation to resolve itself in the next few months, it has forced Spanish Lookout farmers without adequate storage and financing to dump their corn on the domestic market, which has kept the local price around the BZD 0.25/lb level (USD 7.00/bushel). However, we expect the price to rise towards the 0.29/0.30 level (USD 8.12-8.40/bushel) in the next couple of months and are therefore holding on to our corn. An extra 0.05 per lb. on over 2,000,000 lbs of remaining corn would generate an additional BZD 100,000 of profit, which seems a sum worth waiting for...

Lastly, we are very thankful for the weather we had this past week and look forward to a more clement weather environment in 2014.

Thanks!

Ruben Froese

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<b>Grower</b>	<b>Location</b>	<b>Field #</b>	<b>Acres</b>	<b>Irr?</b>	<b>Soil Type</b>	<b>Crop</b>	<b>Seed Variety</b>	<b>Plant Date</b>	<b>Stand - Date</b>	<b>Fertilizer Program</b>	<b>Comments</b>
<b>Thiessen Brothers</b>	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	Beans looking very good Feb 7 Harvest Feb 28-Mar 13
<b>Thiessen Brothers</b>	SC	T2	47 <hr/> 47	Y  N	Sandy loam (Red)	RK Beans	Red Kidney (40,000 seeds/acre) Pink panther/ Clause	Dec 17/13	23"-2/7	14-36-12 35.8lbs/acre 18-46-0 79.3 lbs/acre	Beans looking very good Feb 7 Harvest Feb 28-Mar 13
<b>Thiessen Brothers</b>	SC	T3	108 20 <hr/> 128	Y  N	Sandy loam (Red)	RK Beans	Red Kidney (40,000 seeds/acre) Pink panther/ Clause	Dec 21/13	23"-2/7	14-36-12 35.8lbs/acre 18-46-0 79.3 lbs/acre	Beans looking very good Feb 7 Harvest Feb 28-Mar 13
<b>Marlon Dyck</b>	San Felipe		80	N	Sandy loam	Milo					Not planted due to weather Feb 10 Abandoned Feb 24
<b>Marlon Dyck</b>	Rio Bravo	210-212 220-225 231-236	420	Y	Heavy Black	Rice				TBA	Not planted due to weather Feb 24 Planting Scheduled Mar 17-19
<b>Jacob S Neufeld</b>	San Felipe		209	N	Sandy Black	Black-eyed Beans	BEB (45 lbs/acre) Local Variety			TBA	100 acres planted Feb 18-21 Good early Set: Mar 10
<b>Jacob S Neufeld</b>	Rio Bravo	110-113 121-122	230	Y	Heavy Black	Rice	Cheniere (85 lbs/acre) Imported	5-6-7/3/14		15-15-15 75 lbs/acre 12-24-12 75lbs/acre	160 acres planted Mar 5-7