

Belize Sustainable Agriculture, Ltd. Farming Report – October 20, 2015

General Comments & Weather

This is the 11th of BSA’s fortnightly Farming Reports for the 2015 Summer (Wet) Season, whose main objectives are to:

- Inform readers as to BSA’s farming activities by season, farm, and crop
- Provide relevant data on climatic conditions and agricultural pests potentially affecting our crops.
- Inform readers on domestic and regional market conditions for BSA’s crops.

BSA is only farming in the Summer 2015 season at the Cayo One Estate, situated approximately between miles 40 and 42 of the George Price Highway in Belize, near the village of Cotton Tree in Cayo District. Cayo One is some 41 miles west of Belize City, some 9 miles east of Belmopan and 38 miles east of the Belize-Guatemala border at Melchor.



Mid October saw the arrival of torrential rains, with rainfall for the past fortnight of 361mm (14.2”) and October 16th and 17th recording a total of 323mm (12.7”) in just 48 hours! These are once again very abnormal rainfalls, and their intensity caused widespread flooding in the country, particularly in low lying and coastal areas. The pictures of Belize City on page 4 are a salutary reminder of why Belize’s capital was moved to higher inland ground. While we would normally expect to head into drier weather starting in late October, there can be no assurance that such will be the case this year. And once again, the sole consolation from the harsh and irregular weather this year is the lack of significant hurricane activity in the Atlantic, which looks to continue over the next 2-3 weeks during the remainder of our harvest. Data are shown both for the current year and an average for the past 15 years.

Belmopan Precipitation Data (mm per month) – October Data through October 18, 2015												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2015	195	0.1	56	18	57	491	265	93	425	361		
2000-2014	137	55	49	31	132	245	261	238	216	252	165	129

Belize Sustainable Agriculture, Ltd. Farming Report – October 20, 2015

You can (normally) follow Belize's weather on: <http://www.hydromet.gov.bz/250-km-radar-loop>

We continue to use the US NOAA Hurricane Center weather radar network which monitors the Caribbean basin, and would also suggest Weather Underground as an additional resource:

<http://www.nhc.noaa.gov/>

<http://www.wunderground.com/q/zmw:00000.2.WMGMM>

Cayo One (Corn) – 358 acres (100% non-irrigated)

BSA planted 358 acres of corn on 3 fields at Cayo One (described in the data table below) between May 28th and 30th. All of Cayo One's fields are virgin ground, with soil tests for the newly created farmland showing a consistently rich black soil with some clay, 3-4% organic matter, pH levels in a range of 6.0 – 6.9.

Pre-planting operations involved a disking, a leveling, and a harrowing of the fields, after which a granular base fertilizer was applied. Our 2015 Summer Crop is relying principally on granular based fertilizers, with a modest amount of supplemental liquid fertilizers. Specifics of the fertilizers and their applications are in the data table and Lot Records below. It is important to note that BSA has budgeted fertilizers for its corn fields based on a 150 bushel / acre (9.4 mt/Ha) yield goal. We do not expect to achieve that yield in this first year of operation, but we are fertilizing to that level in order to begin enhancing our soil quality. Our optimum outcome for this first season would be 110 bushels / acre (6.9 mt/Ha) and our financial budgets assume a yield of 81 bushels / acre (5.1 mt/Ha); based on our most recent data we are hopeful that yields will be closer to 100 bushels/acre (6.3 mt/Ha) than 80 bushels.

The corn crop harvest which began on October 6th proceeded smoothly through October 13th, when we had to stop due to the start of heavy rains. It is noteworthy that during the night of October 13th - 14th we received well over 5" of rain, but our rain gauge had a 5" limit so at some stage during the night we lost our ability to track rainfall!

The first field to be harvested was Field 3 (133 acres) which is currently our best (naturally) drained and most level field, although it still needs considerable additional work in the way of blading, planing, and tiling to reach optimum status. Field 3 yielded an encouraging 94 dry bushels per acre, which for first year land that is non-irrigated is 10 bushels/acre higher than our target, and very promising for the future, especially when one factors in the very adverse weather conditions for the 2015 Summer season! Given our 5 year goal of 125 bushels/acre for non-irrigated farmland, we can readily see this being achieved through a combination of better land preparation, planting on improved seed beds, and enhanced drainage. More importantly, what we saw on some of the best portions of Field 3 leaves us confident that the 5 year target of 180 bushels/acre for irrigated farmland will also be achievable.

The second field where we started harvesting was Field 1 (125 acres), where we got slightly past the mid-point when the October 13th - 14th rainfall forced us to halt harvesting operations. Here the greater irregularity of the land and its clear need for additional leveling work caused significantly more "ponding" during the heavy June rainfalls. Yields so far have averaged 84 dry bushels per acre, which is right in line with our first year target. Again, the quality of the soil and the occasional higher yielding patches where drainage was better further reinforces our confidence in Cayo One's potential.

Going forward, we will need several days of dry weather for water saturation to abate to the point where our tracked equipment can get back into the fields and resume the harvest. The key here is for this to happen sooner rather than later, otherwise there could be a serious risk of "lodging". This is where the corn plant, weakened by natural desiccation

Belize Sustainable Agriculture, Ltd.
Farming Report – October 20, 2015

and further weakened by standing in watery ground, collapses, leaving the corn ear to rot in the soil. There is little we can do to manage this risk; Mother Nature will do as she sees fit.

Overall, there have been limited issues with our equipment, despite its age, and the GPS auto-steer function has provided both useful equipment guidance as well as the ability to capture the precise topography of the fields. The yield monitor has had more teething problems, which we and the local distributor are actively working to overcome, and we hope to obtain some useful data from this crop...

To date we have harvested some 18,700 bushels (475 mt) of corn from ~ 200 acres. Assuming that there is no further damage to the corn crop from lodging, and that the remainder of Field 1 and Field 2 yield in the mid 80s/acre, our final yield should be around 32,100 dry bushels (791mt), which would represent an average of 87 dry bushels/acre. This result would be above our target, despite very challenging weather, and one which we would emphatically say is a real success for the first Summer Season at Cayo One. It is also worth noting that reports from neighboring farms to the west of Cayo One are indicating yields of 50/65 dry bushels per acre, and this on fully “civilized” farmland. While the very challenging weather conditions will have played a significant role in the neighbors’ poor yields, we also believe that an unwillingness to invest in drainage/tiling and other types of land improvement continue to hurt local Belizean farmers’ crop results. To say nothing of their unwillingness to invest in irrigation!

Once we (hopefully) have final data for the season next fortnight, we will both summarize all the key data points from the 2015 Summer season as well as discuss the lessons to be learned that will position us for a sharp yield improvement in the Summer of 2016.

Cayo One (Rice) – 125 acres (100% non-irrigated)

BSA planted 125 acres of rice on June 25, 2015 on field #4, which runs east to west across the northernmost section of the prepared farmland. Field #4 received one disking, two passes with a harrow and one leveling during preparation. It has essentially the same soil composition and chemistry as the corn fields.

The rice got off to a good start, as rice doesn’t mind heavy rains, and then continued to develop normally into late July, although with plants staying smaller than ideal due to low rainfall. The water shortage over the late July to late August period gradually withered the crop, and the unfortunate decision to abandon the rice crop was taken on September 4th.

As with the corn crop, drainage and irrigation are the keys to being able to master what are very controllable challenges, especially when it comes to lack of water.

Belize Sustainable Agriculture, Ltd.
Farming Report – October 20, 2015



Easterly View of Field 3 on Harvest Day 2: Oct. 9, 2015

Shame the weather didn't hold like this!



View of EPZ on Harvest Day 2: October 9, 2015

Zoom in to see grain truck ready to load up from Cart



Main Boulevard in Belize City: Oct. 18, 2015



Side Street in Belize City: October 18, 2015



San Pedro (Southern Belize) October 18, 2015

Belize Sustainable Agriculture, Ltd. Farming Report – October 20, 2015

Market Conditions and Conclusion

Local market conditions remain unchanged, and continue to reflect both Belizean shortages as well as shortfalls throughout Central America for Summer 2015 crops.

Corn

Belize's domestic corn market remains very firm. Local prices for spot delivery remain at BZD 30.00-31.00/cwt level (~\$8.54/bushel - \$336/mt). Buyers are baulking at paying much above BZD 30.00/cwt and we expect the price to remain there for the near term.

Current talk in Belize continues to be that there will be shortages and that Belize may have to import feed grade corn in early 2016 to meet domestic requirements.

CSA has been assured by the Belize Ministry of Foreign Trade that there will be no restrictions on corn exports, so that CSA can deliver on its commitments to the Central American subsidiary of a US Fortune 100 Food Consumer Products group. We expect to rapidly sell any excess corn (typically corn that does not meet our buyer's Food Grade specifications) in the local Belizean market.

Soybeans

There is no news to report in the local Soybean market. Domestic prices remain high at around BZD 58-60/cwt (~\$17.40-18.00/Bu – \$ 639-661/mt).

Edible Beans

We continue to receive limited information on edible beans, except that there are continued reports of strong demand at very attractive prices from Central American buyers. We still expect not to plant any Edible Beans in the Winter 2015/16 season.

Rice

Belize's domestic Rice market remains well underpinned due to modest domestic harvests. Local wholesale prices for rough rice ("Paddy rice") continue to be reported at USD around 22.50/cwt or USD 496 /mt.

The Summer 2015 weather conditions continue to be quite challenging, all the way to the final weeks of the harvest! Nonetheless, we remain very encouraged by our crops' relatively good performance and our initial harvest results. Cayo One 1's potential continues to look brighter!

Thanks! - Abram Dyck, John Peters, and the Farming Report Editorial Team

Belize Sustainable Agriculture, Ltd. Farming Report – October 20, 2015

Grower	Location	Field #	Acres	Irr ?	Soil Type	Crop	Seed Variety (count/acre)	Plant Date	Stand Date	Fertilizer Program <i>(For full details of applications, refer to Lot Records)</i>	Comments
BSA	Cayo One	1A	36	N	Black	Corn	DK 7088 27,000/acre	05/28	06/03	<p><u>Base</u> 330 lbs/acre 13+30+13+Micros</p> <p><u>Starter 1</u> 1 ltr/acre Algaenzyme</p> <p><u>Starter 2</u> 3.5 ltr/acre K - Focus</p> <p><u>Post-Plant</u> 46-0-0 110 lbs (1st) Jun 12 Foliar Jun 18 46-0-0 110 lbs (2nd) Jun 27 Foliar/Micro Jul 8 39-0-0-7S 42 lbs (3rd) Jul 18</p>	<p>Western strip that received a “Deep Soil Rip”</p> <p>Full Base: 13.31-30.3-13.2+1.77S +0.12B+0.04Cu+0.22Mn+1Zn+0.22Fe</p> <p>Planted just in time ☺</p> <p>235mm of rain days 4-15</p> <p>V4+ at Day 17</p> <p>240m of rain days 15-28!</p> <p>V7 at Day 31</p> <p>V12 at Day 44</p> <p>VT at Day 52</p> <p>R2 at Day 67</p> <p>R3-4 at Day 81</p> <p>R5-6 at Day 95</p> <p>R5-6 at day 109</p> <p>Harvest started at day 130, interrupted at day 134 due to rain</p>

Belize Sustainable Agriculture, Ltd. Farming Report – October 20, 2015

BSA	Cayo One	1B	89	N	Black	Corn	DK 7088 27,000/acre	05/28	06/03	<p><u>Base</u> 330 lbs/acre 13+30+13+Micros</p> <p><u>Starter 1</u> 1 ltr/acre Algaenzyme</p> <p><u>Starter 2</u> 3.5 ltr/acre K - Focus</p> <p><u>Post-Plant</u> 46-0-0 110 lbs (1st) Jun 12 Foliar Jun 18 46-0-0 110 lbs (2nd) Jun 27 Foliar/Micro Jul 8 39-0-0-7S 42 lbs (3rd) Jul 18</p>	<p>Full Base: 13.31-30.3-13.2+1.77S +0.12B+0.04Cu+0.22Mn+1Zn+0.22Fe</p> <p>Planted just in time ☺</p> <p>235mm of rain days 4-15</p> <p>V4+ at Day 17</p> <p>240m of rain days 15-28!</p> <p>V7 at Day 31</p> <p>V12 at Day 44</p> <p>VT at Day 52</p> <p>R2 at Day 67</p> <p>R3-4 at Day 81</p> <p>R5-6 at Day 95</p> <p>R5-6 at day 109</p> <p>Harvest started at day 130, interrupted at day 134 due to rain</p>
BSA	Cayo One	2	100	N	Black	Corn	DK 7088 27,000/acre	05/29	06/03	<p><u>Base</u> 330 lbs/acre 13+30+13+Micros</p> <p><u>Starter 1</u> 1 ltr/acre Algaenzyme</p>	<p>Full Base: 13.31-30.3-13.2+1.77S +0.12B+0.04Cu+0.22Mn+1Zn+0.22Fe</p> <p>Planted just in time ☺</p> <p>235mm of rain days 3-15</p>

Belize Sustainable Agriculture, Ltd. Farming Report – October 20, 2015

										<p><u>Starter 2</u> 3.5 ltr/acre K - Focus <u>Post-Plant</u> 46-0-0 110 lbs (1st) Jun 12 Foliar Jun 18 46-0-0 110 lbs (2nd) Jun 27 Foliar/Micro Jul 8 39-0-0-7S 42 lbs (3rd) Jul 18</p>	<p>V4+ at Day 17 240m of rain days 15-28! V7 at Day 30 V12 at Day 43 VT at Day 52 R2 at Day 67 R3-4 at Day 81 R5 at Day 95 R5-6 at day 109 Harvest operations interrupted at day 134, Field 2 now expected to start at day 140-45</p>
BSA	Cayo One	3	133	N	Black	Corn	DK 7088 27,000/acre	05/30	06/03	<p><u>Base</u> 330 lbs/acre 13+30+13+Micros <u>Starter 1</u> 1 ltr/acre Algaenzyme <u>Starter 2</u> 3.5 ltr/acre K - Focus <u>Post-Plant</u> 46-0-0 110 lbs (1st) Jun 12 Foliar Jun 18</p>	<p>Full Base: 13.31-30.3-13.2+1.77S +0.12B+0.04Cu+0.22Mn+1Zn+0.22Fe Planted just in time ☺ 235mm of rain days 2-15 V4+ at Day 17 240m of rain days 15-28! V7 at Day 31 V7 at Day 29 V12 at Day 42</p>

Belize Sustainable Agriculture, Ltd. Farming Report – October 20, 2015

										<p>46-0-0 110 lbs (2nd) Jun 27 Foliar/Micro Jul 8 39-0-0-7S 42 lbs (3rd) Jul 18</p>	<p>VT at Day 52 R2 at Day 67 R3-4 at Day 81 R5 at Day 95 R5-6 at day 109</p> <p>Harvest started at day 127!!</p> <p>Harvest completed at day 131: 94 bushels/acre</p>
BSA	Cayo One	4	125	N	Black	Rice	Cheniere 110 lbs/acre	6/25	6/29	<p><u>Base</u> 250 lbs/acre 12+26+23+Micros <u>Starter</u> NPK (pH adjust) Post-Plant 46-0-0 40 lbs (1st) 39-0-0-7S 42 lbs (2nd) Jul 18 46-0-0 108 lbs (3rd) Jul 31</p>	<p>Full Base spread 6/13 50%: 13.31-30.3- 13.2+1.77S+0.12B+0.04Cu+0.22Mn+ 1Zn+0.22Fe 50%: 11-22-13.33+ 5S +0.1B+ 0.04Cu+0.22Mn+1Zn+0.22Fe</p> <p>235mm of rain 6/1-14 240m of rain days 15-28! < 50mm of rain days 29-39 <36mm of rain days 40-53!</p> <p>Crop Abandoned Sept 4, 2015</p>

Belize Sustainable Agriculture, Ltd. Farming Report – October 20, 2015

Lot Records for Fields 1, 2, 3, & 4

GROWER: <u>BSA</u>					Date Planted: <u>May 28, 2015</u>								
FARM LOCATION: <u>Cayo One Estates I</u>					SECTION #: <u>1</u>	SOIL TYPE: <u>Black Loam</u>							
CROP: <u>Corn</u>					VARIETY: <u>DeKalb 7088</u>	# OF ACRES: <u>125</u>							
LAND PREPARATION					FERTILIZERS		PLANTING						
Discing	Harrowing	Leveling or Land Plane	Cultivating	Other	PREPLANT	AT PLANTING	Seed-Rate	Condition					
2	2	2			See Below	Liquid Dry	Projected 27,000	Soil dry to moist					
FERTILIZERS					Rain		PESTICIDES						
Date	Analysis	Rate/Ac	Ground	Air	#	Date	Quantity	Date	Description	Rate/Ac	Ground	Air	#
25-May-15	13.31-30.3-13.2+1.77S	330lb	Preplant		1	5/18-5/31	38 mm	27-May-15	Cruiser	seed	X		1
27-May-15	AlgaEnzims	1 Litre	At planting		2	6/01-6/14	236 mm	29-May-15	Atrazine	1.25lb	X		2
27-May-15	K-Focus	3.5 Litre	At planting		2	6/15-6/26	128 mm	29-May-15	Prowl	1 Litre	X		2
9-Jun-15	Frutal (PH adjust)	13.8CC		X	3	6/27-7/11	224mm	9-Jun-15	Nomax 15 EC	125CC		X	3
12-Jun-15	Frutal (PH adjust)	13.8CC		X	4	7/12-7/26	25mm	12-Jun-15	Cipermethrin	150CC		X	4
12-Jun-15	46-0-0	110lb		X	5	7/27-8/6	52mm	18-Jun-15	Chlorfluba	400CC		X	6
18-Jun-15	NPK (PH adjust)	27.6CC		X	6	8/7-8-22	36mm	29-Jun-15	Tordon	220CC		X	8
18-Jun-15	Sagaquel Combi	500CC		X	6	8/23-9/6	44mm	29-Jun-15	Chlorfluba	400CC		X	8
27-Jun-15	46-0-0	110lb		X	7	9/7-9/21	130mm	16-Jul-15	Certero	161CC		X	9
8-Jul-15	NewFol Mg	150mg		X	9	9/21-10/04	272mm	29-Jul-15	Curyom	100CC		X	11
8-Jul-15	Nachurs Micro+Folia	1L		X	9	10/05-10/18	363mm	29-Jul-15	Abamectin	72CC		X	11
18-Jul-15	38.7N + 7.2S	42.4lb		X	10								

GROWER: <u>BSA</u>					Date Planted: <u>May 29, 2015</u>								
FARM LOCATION: <u>Cayo One Estates I</u>					SECTION #: <u>2</u>	SOIL TYPE: <u>Black Loam</u>							
CROP: <u>Corn</u>					VARIETY: <u>DeKalb 7088</u>	# OF ACRES: <u>100</u>							
LAND PREPARATION					FERTILIZERS		PLANTING						
Discing	Harrowing	Leveling or Land Plane	Cultivating	Other	PREPLANT	AT PLANTING	Seed-Rate	Condition					
2	2	2			See Below	Liquid Dry	Projected 27,000	Soil dry to moist					
FERTILIZERS					Rain		PESTICIDES						
Date	Analysis	Rate/Ac	Ground	Air	#	Date	Quantity	Date	Description	Rate/Ac	Ground	Air	#
25-May-15	13.31-30.3-13.2+1.77S	330lb	Preplant		1	5/18-5/31	38 mm	28-May-15	Cruiser	seed	X		1
28-May-15	AlgaEnzims	1 Litre	At planting		2	6/01-6/14	236 mm	30-May-15	Atrazine	1.25lb	X		2
28-May-15	K-Focus	3.5 Litre	At planting		2	6/15-6/26	128 mm	30-May-15	Prowl	1 Litre	X		2
9-Jun-15	Frutal (PH adjust)	13.8CC		X	3	6/27-7/11	224mm	9-Jun-15	Nomax 15 EC	125CC		X	3
12-Jun-15	Frutal (PH adjust)	13.8CC		X	4	7/12-7/26	25mm	12-Jun-15	Cipermethrin	150CC		X	4
12-Jun-15	46-0-0	110lb		X	5	7/27-8/6	52mm	18-Jun-15	Chlorfluba	400CC		X	6
18-Jun-15	NPK (PH adjust)	27.6CC		X	6	8/7-8-22	36mm	29-Jun-15	Tordon	220CC		X	8
18-Jun-15	Sagaquel Combi	500CC		X	6	8/23-9/6	44mm	29-Jun-15	Chlorfluba	400CC		X	8
27-Jun-15	46-0-0	110lb		X	7	9/7-9/21	130mm	16-Jun-15	Certero	161CC		X	9
8-Jul-15	NewFol Mg	150mg		X	9	9/21-10/04	272mm	29-Jul-15	Curyom	100CC		X	11
8-Jul-15	Nachurs Micro+Folia	1L		X	9	10/05-10/18	363mm	29-Jul-15	Abamectin	72CC		X	11
18-Jul-15	38.7N + 7.2S	42.4lb		X	10								

Belize Sustainable Agriculture, Ltd. Farming Report – October 20, 2015

GROWER: <u>BSA</u>					Date Planted: <u>May 30, 2015</u>				
FARM LOCATION: <u>Cayo One Estates I</u>					SECTION #: <u>3</u>				
CROP: <u>Corn</u>					BLOCK #: _____				
VARIETY: <u>DeKalb 7088</u>					SOIL TYPE: <u>Black Loam</u>				
# OF ACRES: <u>133</u>									

LAND PREPARATION					FERTILIZERS			PLANTING			
Discing	Harrowing	Leveling or Land Plane	Cultivating	Other	PREPLANT	AT PLANTING		Seed-Rate	Condition		
2	2	2			See Below	Liquid	See Below	Projected 27,000	Soil dry to moist		
					Dry						

FERTILIZERS						Rain		PESTICIDES					
Date	Analysis	Rate/Ac	Ground	Air	#	Date	Quantity	Date	Description	Rate/Ac	Ground	Air	#
27-May-15	13.31-30.3-13.2+1.77	330lb	Preplant		1	5/18-5/31	38 mm	30-May-15	Cruiser	seed	X		1
30-May-15	AlgaEnzims	1 Litre	At planting		2	6/01-6/14	236 mm	30-May-15	Atrazine	1.25lb	X		2
30-May-15	K-Focus	3.5 Litre	At planting		2	6/15-6/26	128 mm	30-May-15	Prowl	1 Litre	X		2
9-Jun-15	Frutal (PH adjust)	13.8CC		X	3	6/27-7/11	224mm	9-Jun-15	Nomax 15 EC	125cc		X	3
12-Jun-15	Frutal (PH adjust)	13.8CC		X	4	7/12-7/26	25mm	12-Jun-15	Cipermethrin	150cc		X	4
12-Jun-15	46-0-0	110lb		X	5	7/27-8/6	52mm	18-Jun-15	Chlorfluba	400CC		X	6
18-Jun-15	NPK (PH adjust)	27.6CC		X	6	8/7-8-22	36mm	29-Jun-15	Tordon	220CC		X	8
18-Jun-15	Sagaquel Combi	500CC		X	6	8/23-9/6	44mm	29-Jun-15	Chlorfluba	400CC		X	8
27-Jun-15	46-0-0	110lb		X	7	9/7-9/21	130mm	16-Jun-15	Certero	161CC		X	9
8-Jul-15	NewFol Mg	150mg		X	9	9/21-10/04	272mm	29-Jul-15	Curyom	100CC		X	11
8-Jul-15	Nachurs Micro+Folia	1L		X	9	10/05-10/18	363mm	29-Jul-15	Abamectin	72CC		X	11
18-Jul-15	38.7N + 7.2S	42.4lb		X	10								

GROWER: <u>BSA</u>					Date Planted: <u>June 25, 2015</u>				
FARM LOCATION: <u>Cayo One Estates I</u>					SECTION #: <u>4</u>				
CROP: <u>Rice</u>					BLOCK #: _____				
VARIETY: <u>Cheniere</u>					SOIL TYPE: <u>Black Loam</u>				
# OF ACRES: <u>125</u>									

LAND PREPARATION					FERTILIZERS			PLANTING			
Discing	Harrowing	Leveling or Land Plane	Cultivating	Other	PREPLANT	AT PLANTING		Seed-Rate	Condition		
1	2	1			See Below	Liquid		110lbs	Wet		
					Dry						

FERTILIZERS						Rain		PESTICIDES					
Date	Analysis	Rate/Ac	Ground	Air	#	Date	Quantity	Date	Description	Rate/Ac	Ground	Air	#
12-Jun-15	13.31-30.3-13.2+1.77	124.4lb	Pre-plant	X	1	5/18-5/31	38 mm	18-Jun-15	Touchdown	600CC		X	3
12-Jun-15	11-22-13.33+5S+0.1B	124.4lb	Pre-plant	X	2	6/01-6/14	236 mm	11-Jul-15	Karate	100CC		X	4
18-Jun-15	NPK (PH adjust)	27.6CC	Pre-plant	X	3	6/15-6/26	128 mm	5-Aug-15	Tordon	164CC		X	8
11-Jul-15	46-0-0	40lb		X	5	6/27-7/11	224mm						
18-Jul-15	38.7N + 7.2S	42.4lb		X	6	7/12-7/26	25mm						
31-Jul-15	46-0-0	108		X	7	7/27-8/6	52mm						
						8/7-8/22	36mm						
						8/23-9/6	44mm						
						9/7-9/21	130mm						
						9/21-10/04	272mm						
						10/05-10/18	363mm						