

384  
1280  
2014

*Annual*  
**Progress report for FY 2015 July**

**National Peanut Board**

Submitted on July 11, 2015

**Project Title: Valencia Peanut Breeding for Drought Tolerance:**

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Crosses at Costa Rica winter nursery that were initiated in August 2013. The parents were planted in August and crosses are being done for Valencia-C (female parent) with three drought tolerant lines (male parents) namely C76-16, ICGS-76 and ICGS-91114. One of the three crosses has been advanced to F7 generation namely Valencia – C x ICGV 91114 as this was initiated earlier than August 2013. We tested this cross with twelve different families at Delwin Marrow farm in 2014. The preliminary data from this cross is presented in a table below.

Cross #	Rep-1	Rep-2	Rep-3	Mean	Parentage	Family
85	4801	4813	4830	4815	C x ICGV 91114 plant-54	Family-1
87	4414	3403	3622	3813	C x ICGV 91114 plant-54	Family-2
78	4132	3439	3568	3713	C x ICGV 91114 plant-54	Family-3
86	3364	3837	3732	3644	C x ICGV 91114 plant-54	Family-4
84	2980	4488	3458	3642	C x ICGV 91114 plant-54	Family-5
83	3456	4060	3293	3603	C x ICGV 91114 plant-54	Family-6
79	2845	3376	-	3110	C x ICGV 91114 plant-54	Family-7
80	2804	3900	3952	3552	C x ICGV 91114 plant-54	Family-8
76	4112	3842	2634	3529	C x ICGV 91114 plant-54	Family-9
82	3117	4391	2964	3491	C x ICGV 91114 plant-54	Family-10
81	3749	2523	2799	3024	C x ICGV 91114 plant-54	Family-11
77	1330	3288	3842	2820	C x ICGV 91114 plant-54	Family-12
				3600	Mean of 12 families	
Valencia-C	3946	4253	3074	3758	Check	

Twelve families were made with this cross and tested under replicated conditions. The design of the experiment was Randomized complete block with three replications. One family outperformed the check by 1057 lbs/acre (Cross # 85). This is the first year under irrigated conditions. We planted all these families under two irrigation conditions in 2015 at Delwin Marrow farm,

Brownfield, Texas by irrigating the crop at half the amount by skipping every other irrigation to see the performance under limited water conditions. We will also take some photosynthetic measurements and calculate water use efficiency. We have advanced the other two populations using ICGS-76 and C76-16 at our winter nursery program in Costa Rica. The populations are in F2 stage planted in June 2015.