

## Technical Case Study – Ref 5.1.8

### The effects of Agriwater Water Treatment Technology on pecan nut size and uniformity – September 2014

The 2014 results of Pecan nuts in the Hartswater area have once again proven how well Agriwater's Water Treatment Technology works. Overall, 2014 was a good year for producers in the area with pack house yields around 1.5 to 1.8ton/ha. Firstly, the treated Pecan orchards and varieties had slightly higher average yields than non-treated orchards and varieties, but the most notable effect was the % oversize nuts which was consistently higher over all varieties on treated versus untreated lands. Kernel % was also slightly higher. In the same season and with similar fertiliser and watering programs, treated orchards of various varieties had averages of 74% oversize, 23% X-large and 3% large, compared to standard averages of untreated orchards of 41% oversize, 50% X-large and 9% large.



To illustrate this point in another way, Table 1 shows varieties Wichita and Choctaw over two seasons, before and after installation of the RainBox, with the proportional spread of sizes for the two seasons.

The RainBox was installed in October 2013, thus the 2014 harvest was a good indicator of the effects of Agriwater's Water Treatment Technology in the soil and crop.

**Table 1. Yield results of pecan nuts in Hartswater – 2014**

Variety - Wichita			Variety - Choctaw		
	2013 (Untreated)	2014 (Treated)		2013 (Untreated)	2014 (Treated)
Oversize %	0.1	68.3	Oversize %	70.5	99.6
XL %	59.9	30.9	XL %	28.5	0.4
L %	35.7	0.9	L %	1	0
M %	4.3	0	M %	0	0

The increase in size was clearly indicated and the higher price paid for larger sizes was notable. With Choctaw the farmer made almost an extra R10/kg of nuts supplied. Even though weather and other factors could have played a role, management and fertilisation were the same for both orchards over the two seasons. The differences seen could only be attributed to the Agriwater system.

While other producers in the Hartswater area also had good yields, they did not have the high % oversize and XL, which was characteristic of Agriwater treated lands. Given 2014 prices, the Agriwater growers realised an average price per kg for all varieties, some R4-5/kg higher than other growers. At 1.5 to 1.8ton/ha – that's an extra R6000 to R9000/ha income. For varieties like Choctaw with a larger % oversize, the extra income with Agriwater Water Treatment Technology was more than R15 000/ha for the 2014 season.

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