Main Identity

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Sent: Monday, January 28, 2008 12:01 PM
Attach: nursery (version 1).xls
Subject: Preliminary results nursery 2008

Hei Guys,

Here are the preliminary results from the nursery data:
We measured a total of 381 seedlings in 154 planters. The mean number of propagules in each planter is 2.49 (+/-0.99) and the mean number of stilt roots on the healthier propagule of each planter is 1.13 (+/-1.34). The mean length of the trees is 38.56 cm (+/- 9.10 cm) for a mean thickness of 13.37 cm (+/- 3.00). The mean depth in the nursery is 30.85 cm (+/-5.15 cm).

No correlation (Barvais – Pearson's correlation) was found for:

- The number of propagules in function of the depth (R^2=0.0198) – fig. 1 but this is not really representative as we don't know how many we planted in each planter in Nov. 2006
- The number of stilt roots in function of the depth (R^2=0.024) – fig 2.
- The thickness in function of the depth (R^2 =0.0159) – fig. 3
- The height in function of the depth (R^2 =0.1102) – fig. 4
- The number of stilt roots in function of the number of propagules in the planter (R^2=0.034) – fig 5
- The thickness in function of the number of propagules in the planter (R^2=0.0793) – fig 6
- The height in function of the number of propagules in the planter (R^2=0.017) – fig 7

So, neither the depth nor the number of props in the planter seems to influence the health of the seedlings. This indicates that the conditions we had in the nursery were close to optimal, or that we should have include more extreme conditions to observe a significant difference and a trend in the results.

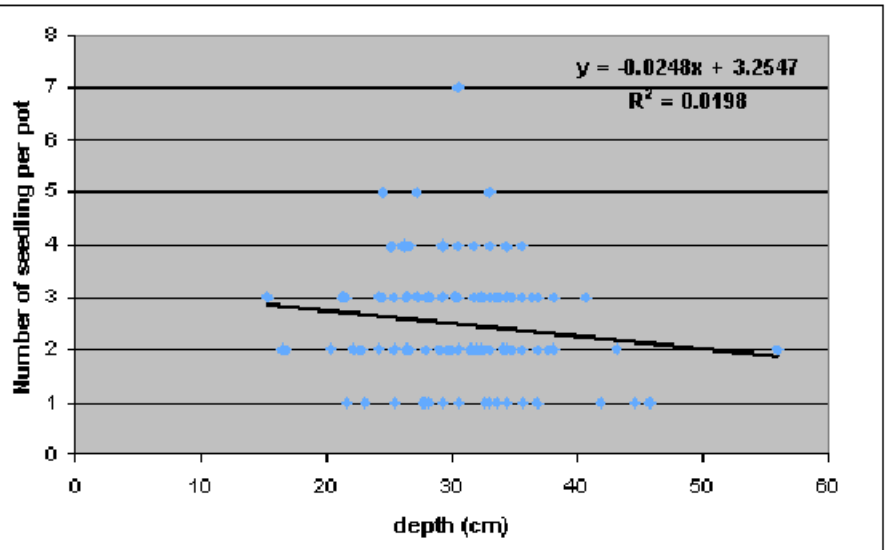


Figure 1. Number of seedlings/pot in fct of depth

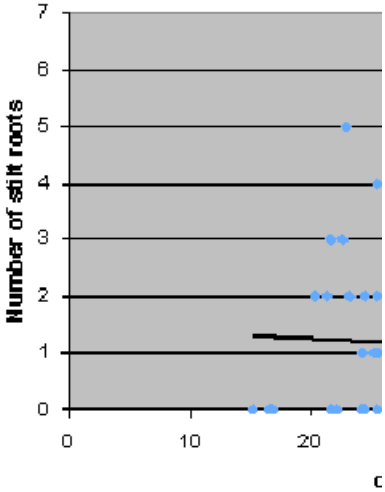


Figure 2. Number of

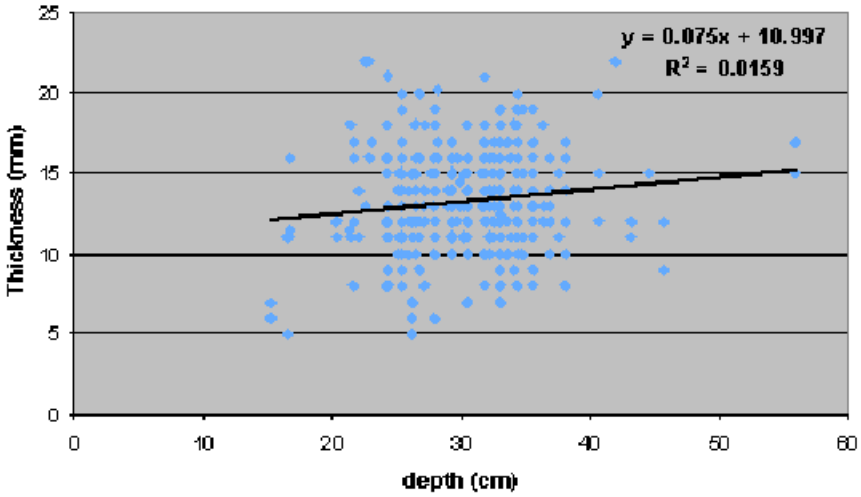


Figure 3. Thickness in fct of depth

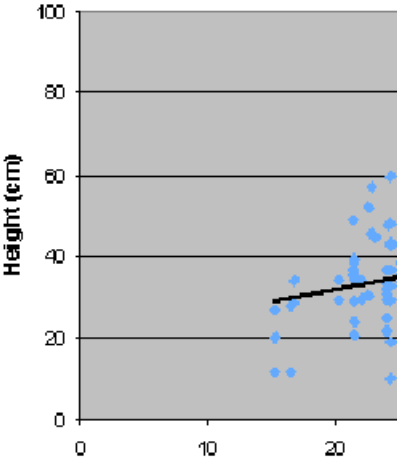


Figure 4. H

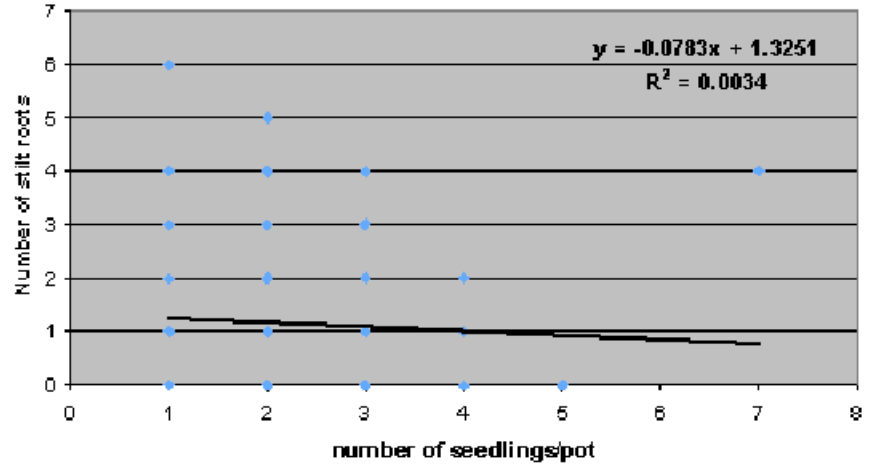


Figure 5. Number of stilt roots in fct of the number of seedlings/pot

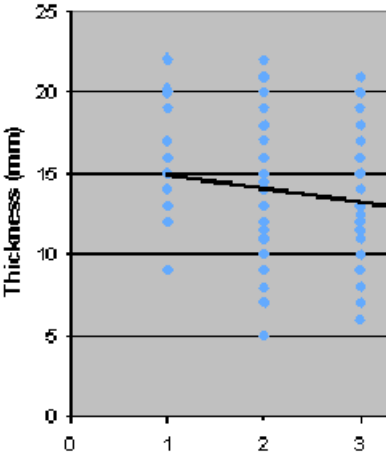
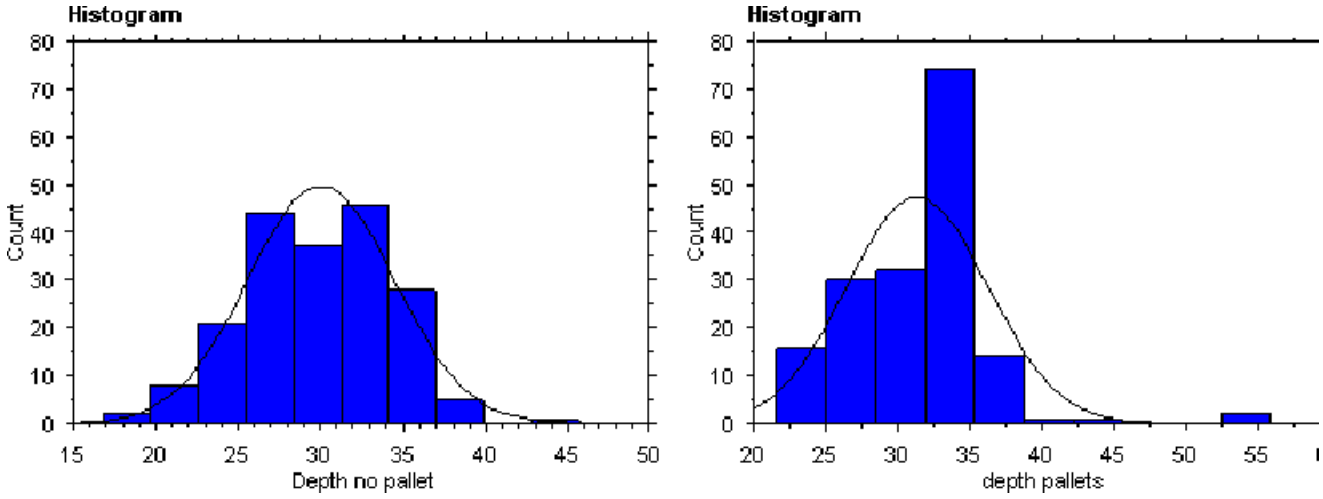


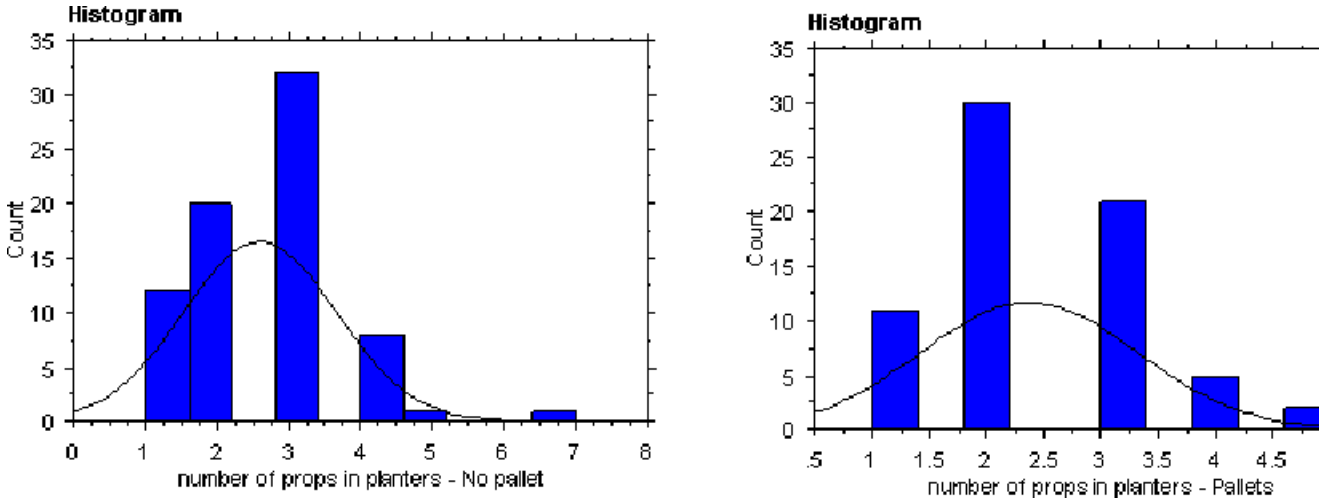
Figure 6. Thicnkness in f

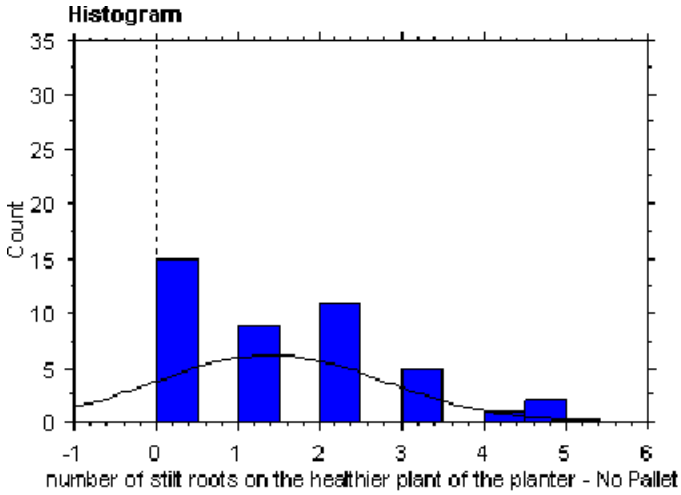
An analysis of variance (one-way ANOVA) was run to test for statistical difference between the plants on pallets and not on pallet.

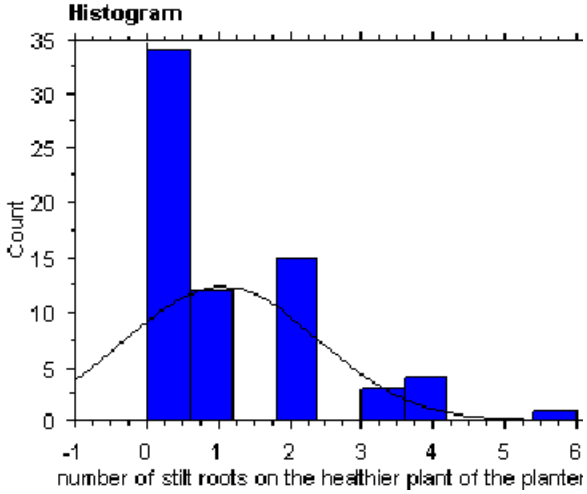
A statistical difference was found between the depths on the pallet or not, both followed a normal distribution, (ANOVA, p>0.05, DF = 1, F = 5.09) (fig 8 & 9)

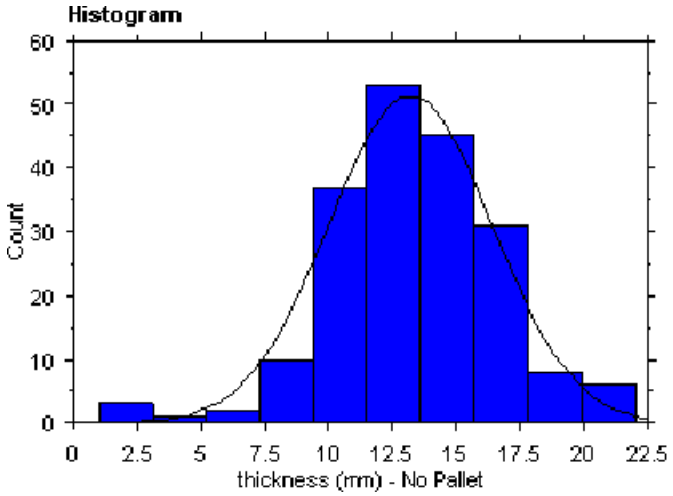


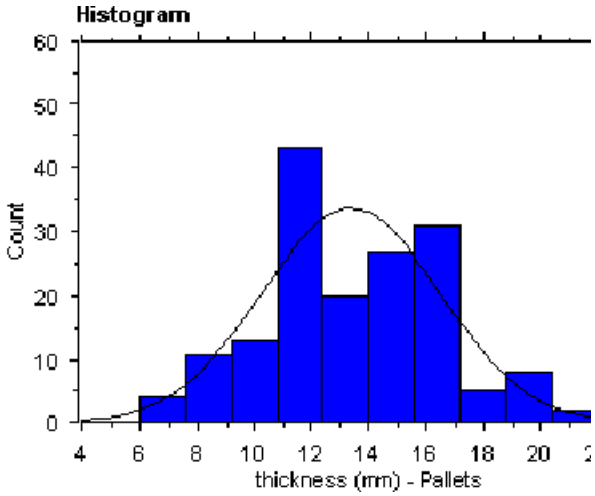
No statistical difference was found for the number of propagules/ pot (fig. 10, p>0.05 ,DF= 1), the number of stilt roots (fig. 11, p>0.05, DF= 1) and the thickness of the propagules (fig. 12, p>0.05, DF= 1). But a statistically significant difference was found for the height of the seedling on pallets or not (fig. 13, p<0.05, DF= 1).
This would indicate that the height was influenced by a factor that was not the depth (as no correlation was found between the depth and the height). As the pots on the pallets were closer to the channel, this could have modified the conditions in the nursery, e.g. the temperature, the level of oxygen, the import of nutrient (a minor nutrient was not supplemented by the added fertilizers), the salinity, etc.
Jason, these results could have been triggered by the fact that the homoscedasticity of the results were not respected. Any suggestion to test that?

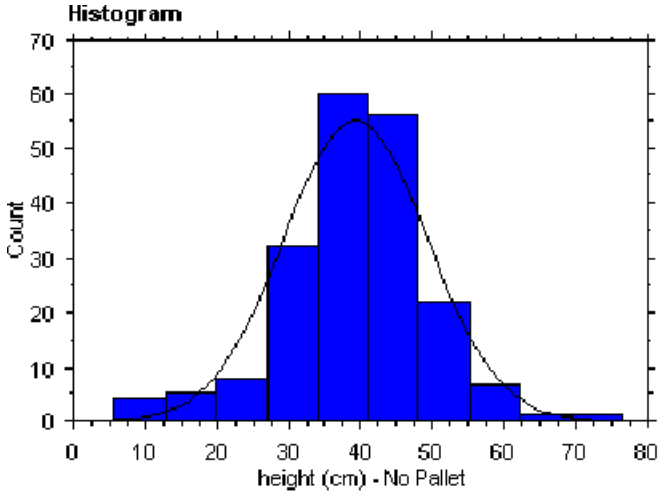


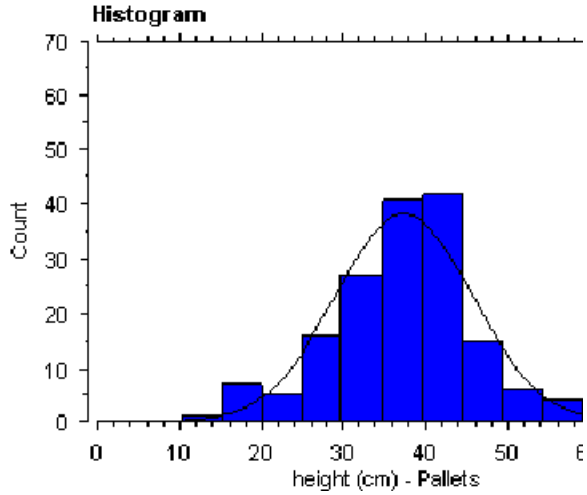












Also, I put in attachment the spreadsheet with all the data if you guys want to play with the data and make any additional test.
I'll work on the interpretation of the results and write a short paper about our work in Caymans. Feel free to comment these results.

Thanks,

Cath

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