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Introduction

THE PROBLEM: the storage of high physiological potential seed lots is a priority in a system of citrus rootstock production

THE OBJECTIVE: evaluate the performance of 'Swingle' citrumelo seeds extracted from fruit of different development stages during storage

Material and Methods

Evaluations performed at the beginning and after five months storage: germination, seedling emergence, seedling length and dry mass and Seed Vigor Imaging System - SVIS® (growth, uniformity and vigor indexes)



Seeds were extracted from fruits of different pericarp colors: green, yellow green and yellow and dried to 35% m.c. (f.w.), treated with Captan and stored in double pack kraft® paper + 0.01mm polyethylene) bags for five months in cold chamber (5°C + 65% R.H.). Control: no selected fruits

Results

Seeds extracted from green fruits had the lowest germination and vigor (Table 1; Figures 1 and 2)

Table 1. Physiological potential evaluations of seeds extracted in different fruit development stages at the beginning and after five months storage

Evaluations	Pericarp color of fruit			Control
	Green	Yellow green	Yellow	
Germination (%)				
Initial	84	88	82	85
After storage	37	58	36	75
Seedling emergence (%)				
Initial	56	60	62	79
After storage	17	85	56	76
Seedling dry mass (g.seedling ⁻¹)				
Initial	0.063	0.073	0.125	0.135
After storage	0.143	0.258	0.258	0.255
Growth index - SVIS*				
Initial	556	726	950	902
After storage	448	689	260	834
Uniformity index- SVIS*				
Initial	819	820	809	828
After storage	572	712	603	785
Vigor index - SVIS*				
Initial	634	754	907	879
After storage	485	696	363	819

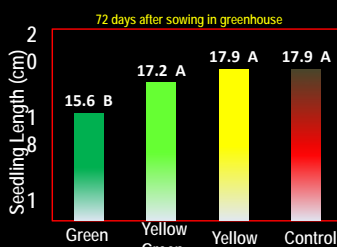


Figure 1. Seedling length from seeds extracted of fruits in different development stages. Means of two evaluation times



Seeds with ruptures in the tegument (%)
 Green: 3,2%
 Yellow green: 2,9%
 Yellow: 56,7%
 Control: 21,7%

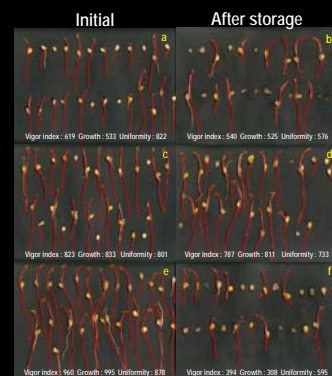


Figure 2. SVIS® analysis of 21-old-day seedlings at the beginning and after five months storage from seeds extracted in different fruit development stages. Pericarp colors: green (a, b), yellow green (c, d) and yellow (e, f)

Seeds extracted from yellow fruits showed low physiological potential after storage, which may be attributed to the high percentage of seeds with ruptures in the tegument

Seeds extracted from yellow green fruits have higher storage potential