PINEAPPLE CROPPING SYSTEM DESIGN WITH THE SIMPIÑA MODEL

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❖ INTRODUCTION - PINEAPPLE PRODUCTION

- 'Queen Victoria' pineapple is the 1st fruit production on Reunion Island
- Large range of climatic conditions and cultural practices

→ **VARIABILITY ON SYSTEM PERFORMANCES**

❖ METHODOLOGY

❖ MODEL

Figure 1. General description of the SIMPIÑA model

❖ TYPOLOGY OF PRACTICES

- **39 farms** surveyed, **3 types** identified (Fig.2)

Figure 2. Farm-types identified

❖ SIMULATIONS

- **SIMPIÑA** (Fig.1) was used to **explored a wide range of practices combination** with ≠ constraints identified by typology (Tab.1)
- **4 criteria evaluated** for each simulation

	A	B	C
Planting months	1-2-3	1 to 12	1 to 12
Planting density	50000 plants ha^{-1} to 100000 plants ha^{-1}		
Flowering induction	150 to 300 days after planting		
Number of N application	1-4-8		
Levels of N	0 to 400 kgN ha-1		
Sucker's weight	200 to 400g		
Number of simulations	8748	34992	69984

Table 1. Combination of practices simulated for each types after identifying constraints with the typology

- **Systems with 10 % best performances >** mean of actual system performances were selected for each type
- Ranges of cultural practices for **current systems** (Fig.3) were compared **to selected systems**

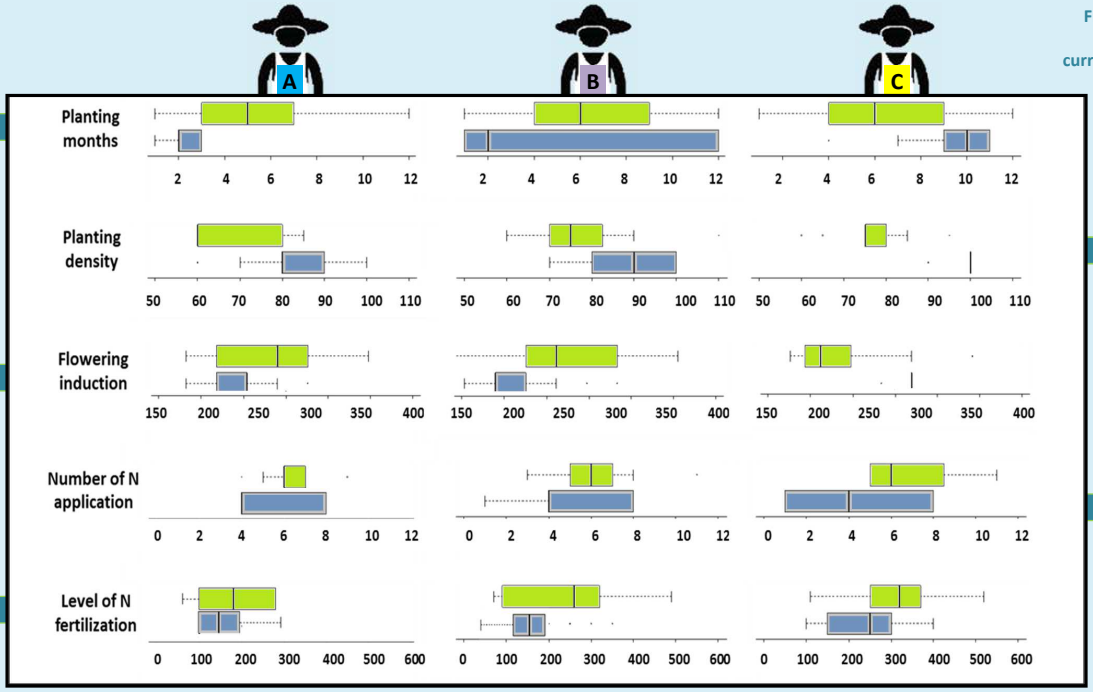
❖ RESULTS & DISCUSSION

Figure 3. Representation of range of practices for current pineapple systems and selected systems

planting months were extended for B type and were reduced for A & C types

earlier dates of flowering induction for A & B types, later for C type

lower N fertilization



higher planting density

number of N application was extended for C type

The method generates ranges of combination → farmers could identify management recommendations which match with their objectives and strategic choices.

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iCROPM2016. 15-17 March 2016, Berlin, Germany