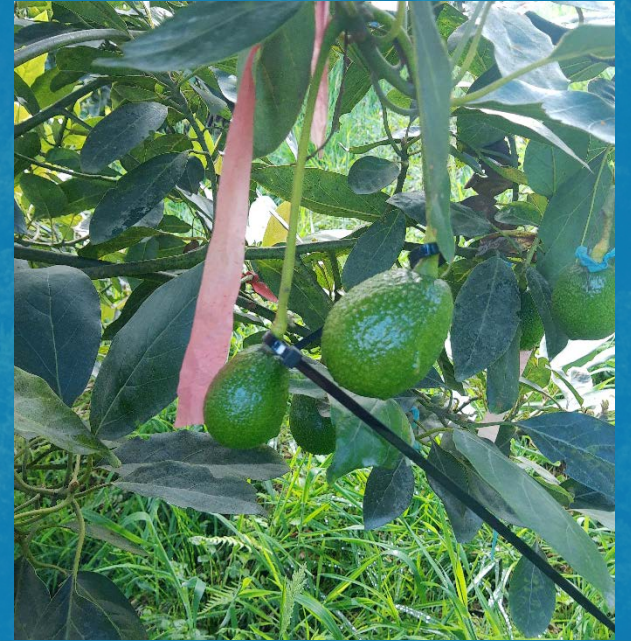


Fruit retention in Hass avocado by cardinal point in two contrasting zones of the Andean tropics of Colombia.

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RADFORDS



INTRODUCTION



+ of 35,000 ha and growing



Lack of knowledge of reproductive behavior



Differences in growth and productivity per quadrant



+ research, better management and support

METHODOLOGY

Vegetal material

- Avocado Hass - 5-7 years
- Rootstock from native seed

Selection and variables

- Two contrasting zones (1.950m Aranzazu – 2.400m Villamaría)
- 4 trees, branches, inflorescences, fruits in 4 quadrants
- floral phenology, fruit retention, PAR values, temperature and relative humidity per quadrant, characteristics of harvested fruit per quadrant.

Design and analysis

- CRD – 4 replicates y subreplicates
- Analysis of variance and Tukey tests ($p \leq 0.05$) – SAS (SAS Inst, Cary N.C. Version 9.4)



E



N

W

S



Source: Arias-García *et al.*, 2021



Source: Arias-García *et al.*, 2021

RESULTS AND DISCUSSION

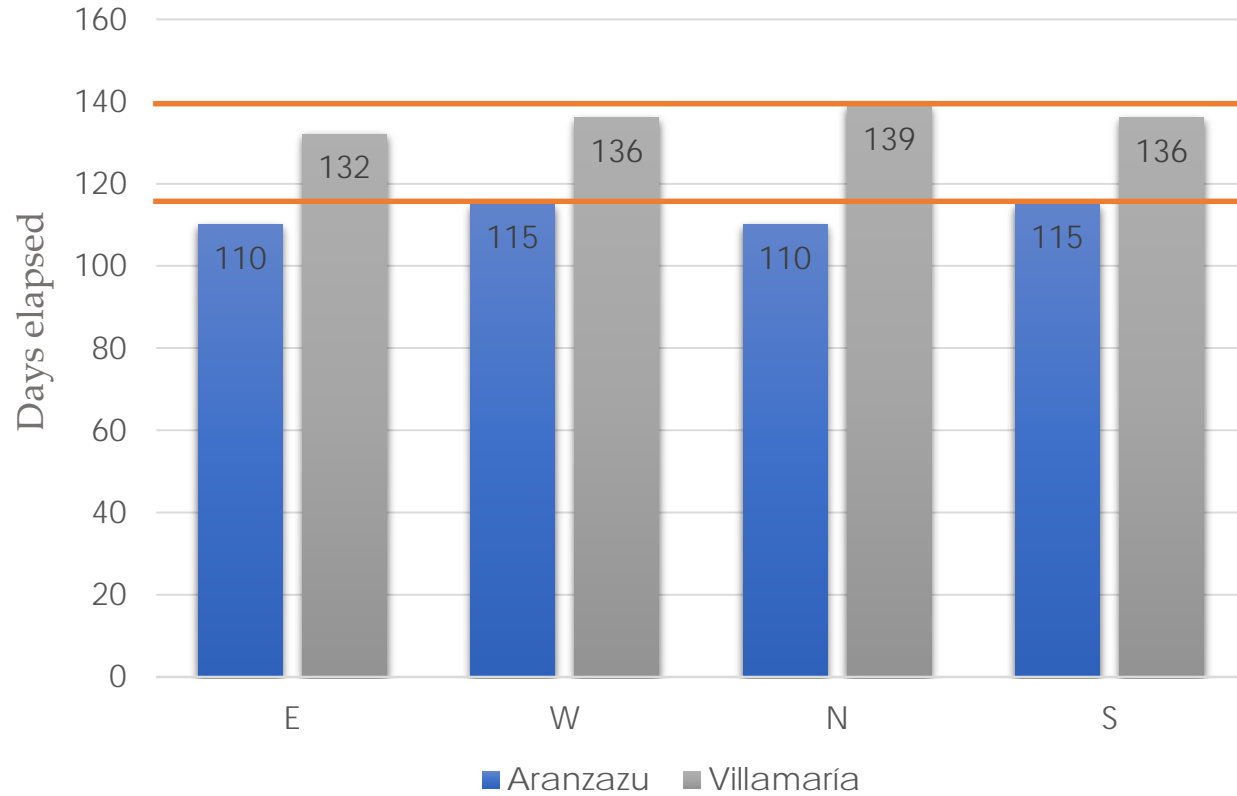
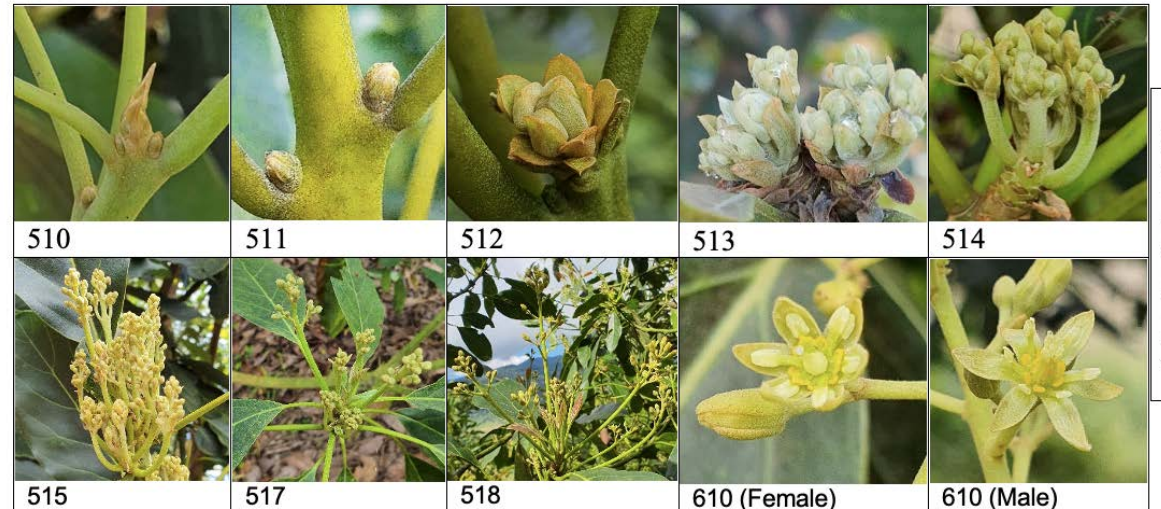


Figure 1. Phenology of flowering by quadrant through time in two contrasting zones of the Andean tropics of Caldas, Colombia.



- ✓ The East (E) and North (N) sides of the trees were the ones that mostly reached anthesis first.
- ✓ The area of Aranzazu recorded an average temperature of 21.4°C, while in Villamaría the average temperature was 17.8 °C. AHU



Photos: Arias-García *et al.*, 2021

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(Sedgley, 1977; Ish-Am & Eisikowitch, 1991; Pattemore *et al.*, 2018).

Incidence of photosynthetically active radiation per quadrant

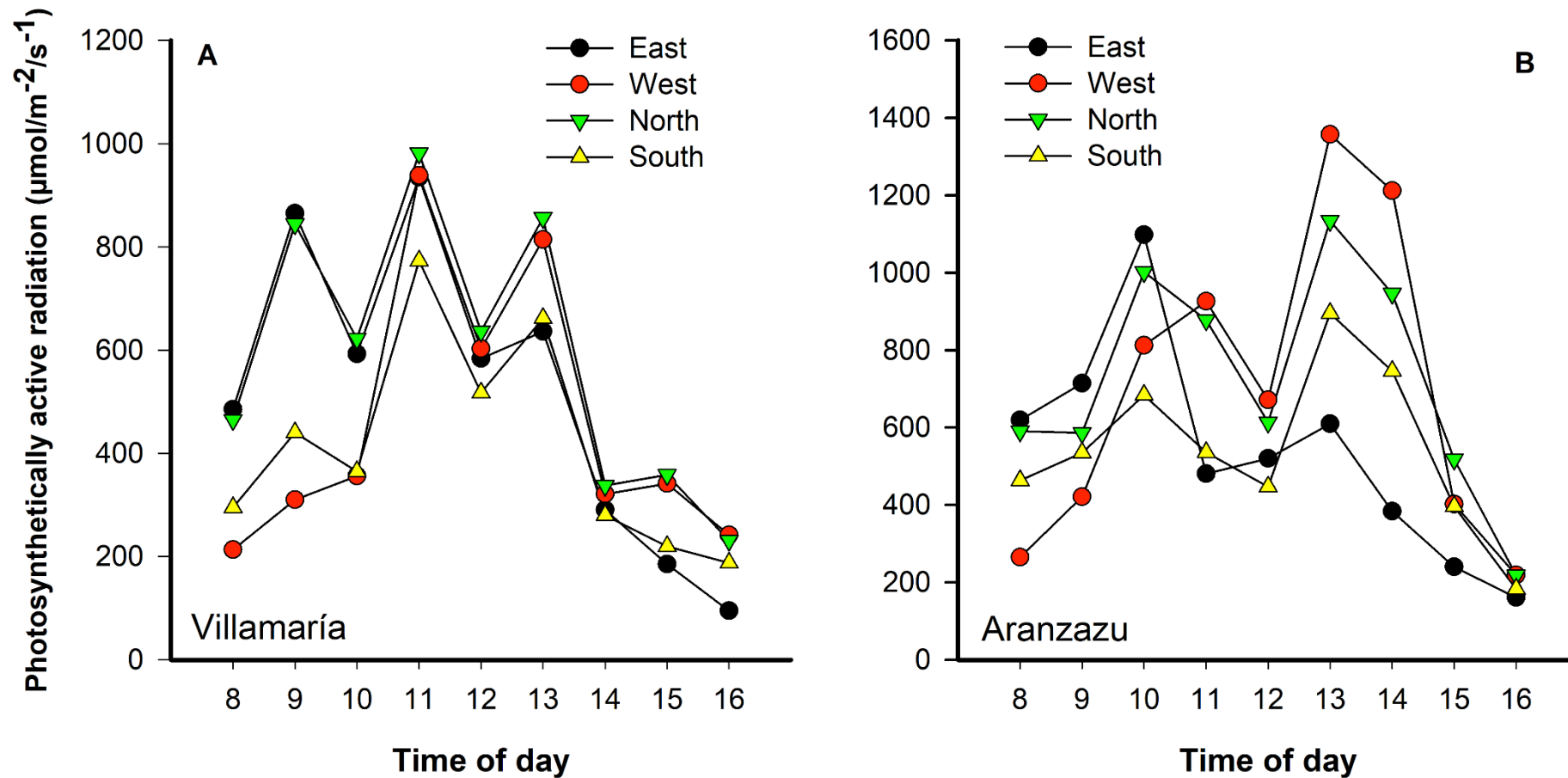
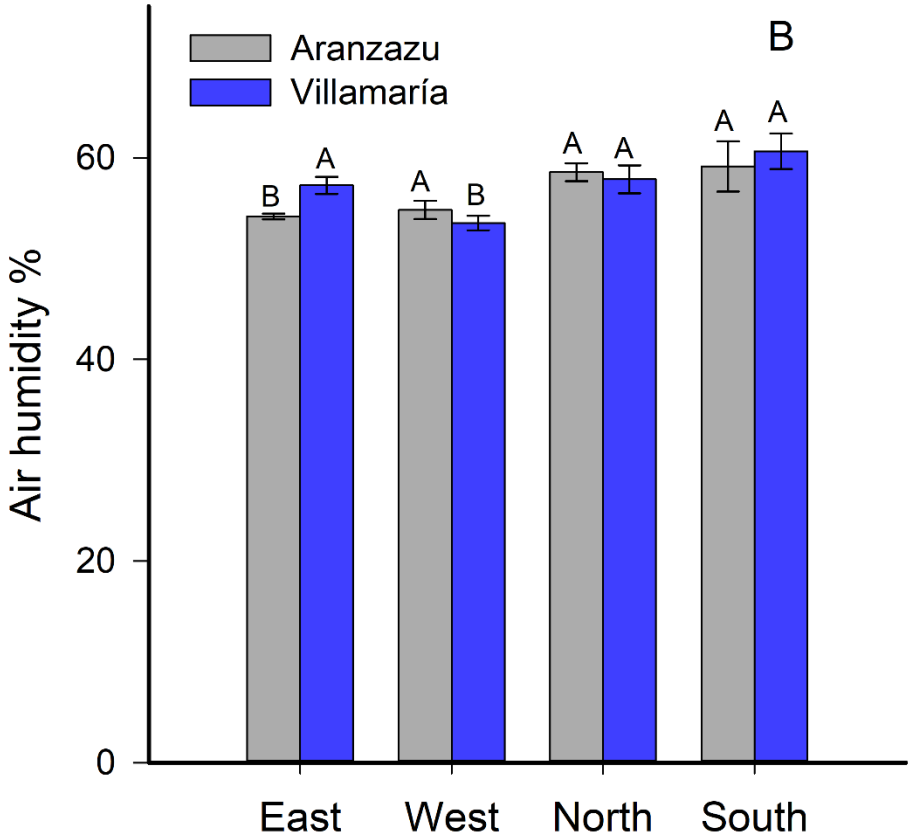
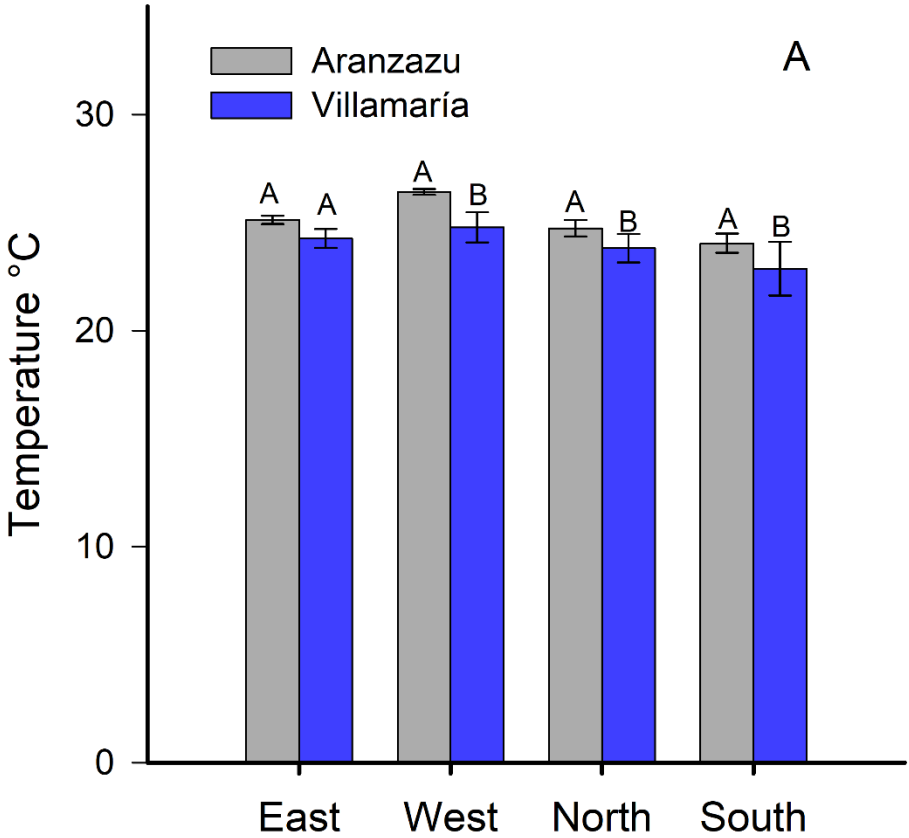


Figure 3. Incidence of photosynthetically active radiation per quadrant at different times of the day in two contrasting zones of the Andean tropics of Caldas, Colombia.

Behavior of temperature and air humidity by quadrant

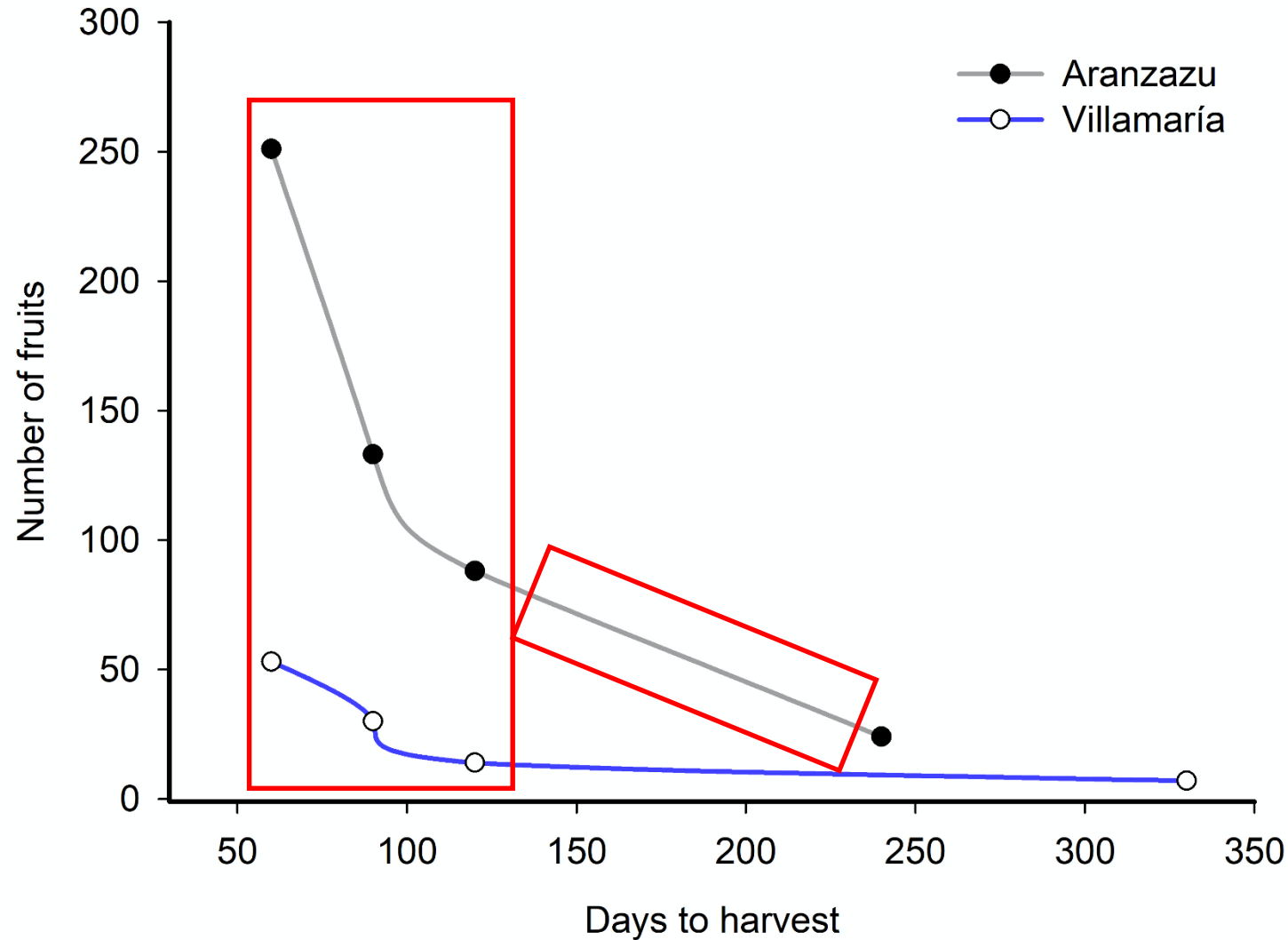


Behavior of temperature (A) and air humidity (B) by quadrant in two contrasting zones of the Andean tropics of Caldas, Colombia. Means ± SE within a bar with different letters are significantly different (p < 0.05).

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Fruit retention from flowering to harvest by zone



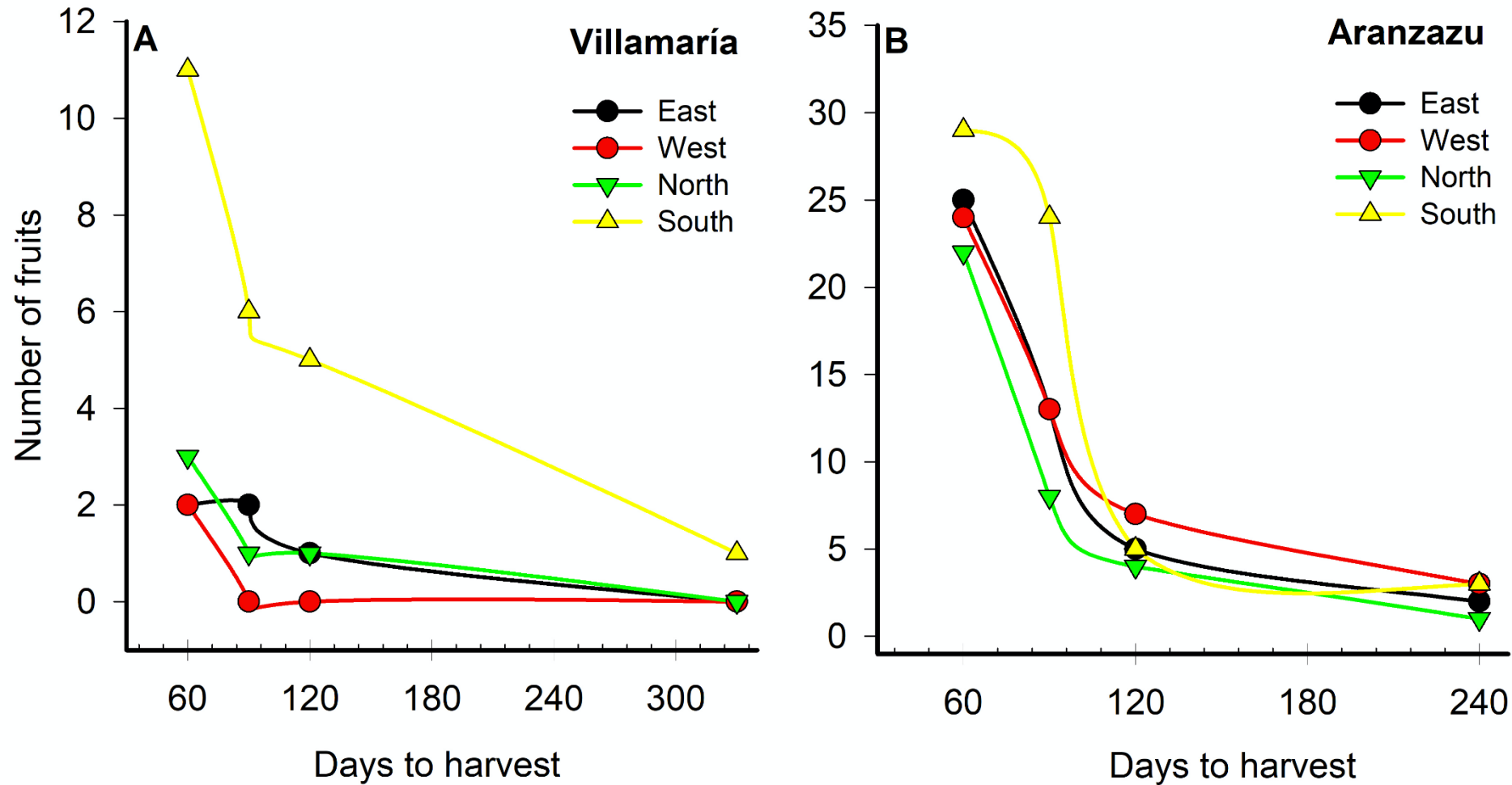
Retention by zone

Aranzazu: 30.123 flowers - 0.07% - 33.8 t/ha
Villamaría: 12.414 flowers - 0.05% - 26.4 t/ha

Figure 5. Fruit retention from 60 days after anthesis to harvest in two contrasting zones of the Andean tropics of Caldas, Colombia.

Lahav & Zamet, 1999; Garner *et al.*, 2016; Boldingh *et al.*, 2016; Silva *et al.*, 2017; Menzel *et al.*, 2014; Wilkie *et al.*, 2019; Abraha *et al.*, 2010.

Fruit retention from flowering to harvest by quadrant



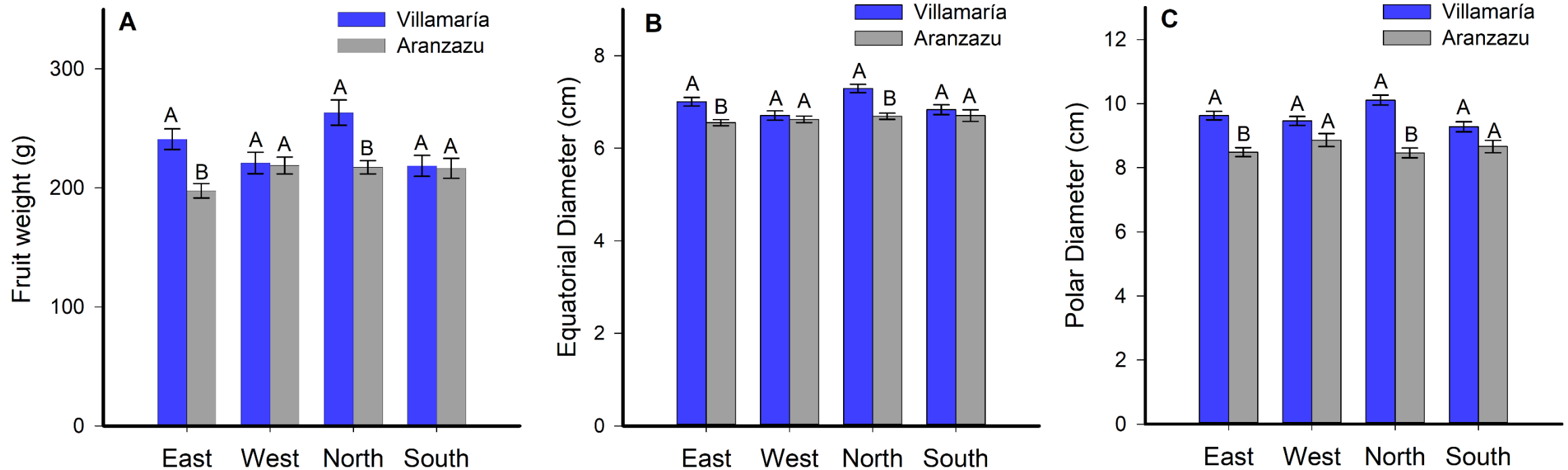
Retention by quadrant

Aranzazu: 10.470 flowers - 0.08%
Villamaría: 3.513 flowers - 0.02%

V/María South: 0.11%
Aranzazu West: 0.13%

Figure 6. Fruit retention from 60 days after anthesis to harvest by quadrant in two contrasting zones of the Andean tropics of Caldas, Colombia. Villamaría (A), Aranzazu (B).

Fruit characteristics at harvest by quadrant



Average fruit weight per quadrant (A), equatorial diameter per quadrant (B) and polar diameter per quadrant (C) in two contrasting zones of the Andean tropics of Caldas, Colombia.

Questions

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