

## Context

In Burkina Faso, processed mango volumes rose from 12 000 tons in 2008 to 36 635 tons in 2017<sup>[1]</sup>. Despite this growing volume, only 20% of annual mango production is processed. It relies mainly on dried mango and mango juices using the varieties Amélie, Brooks, Kent, Keitt, Lippens and Springfield. The dried mango from Burkina Faso is labeled "organic" and "fair trade" and represents between 10% and 20% of the total European dried mango market<sup>[2]</sup>. However biochemical characteristics of the varieties are not well known and the products derived from mango are not sufficiently diversified.

The objective is to determine the biochemical characteristics to propose adapted processing

## Materials & Methods



Amélie



Brooks



Kent



Keitt



Lippens



Springfield

### Analysis

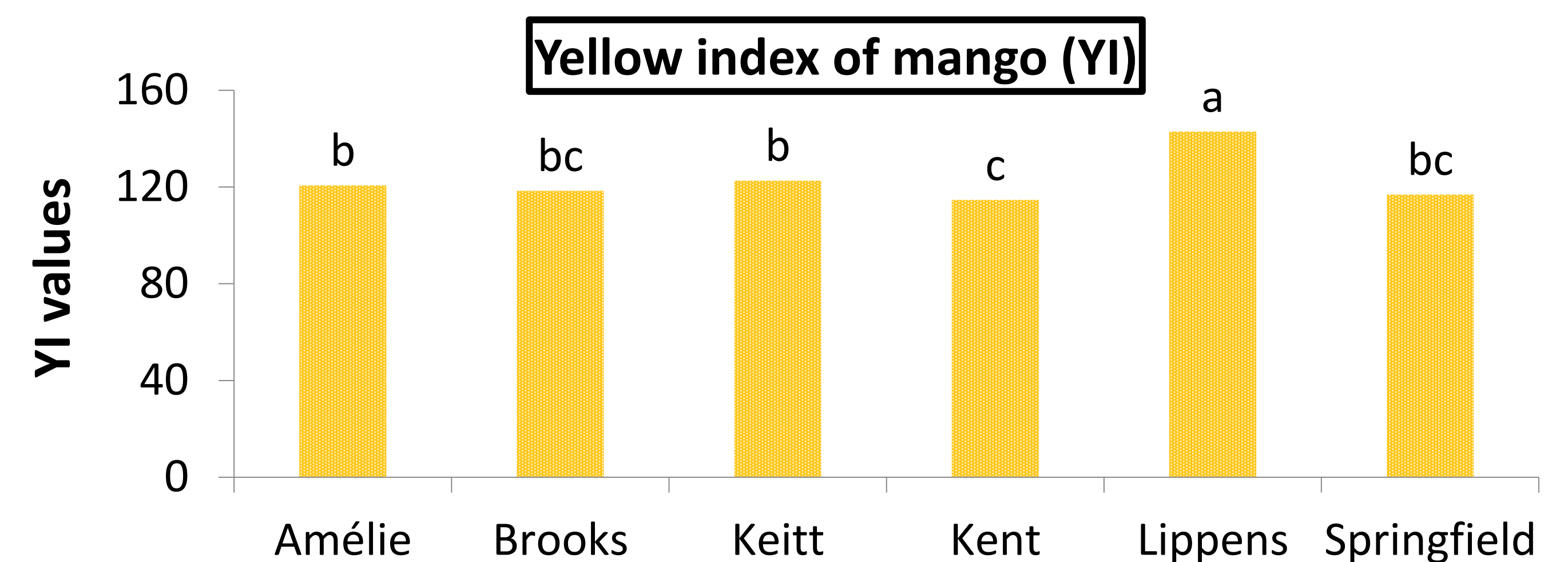
Global : SSC (°Brix). pH. titrable acidity (TA). ratio SSC/TA. L\* a\* b\* analysis  
 Specific : Total fibers, β-carotene, vitamin C.

Yellow index<sup>[3]</sup>

$$YI = 142.86 b^* / L^*$$

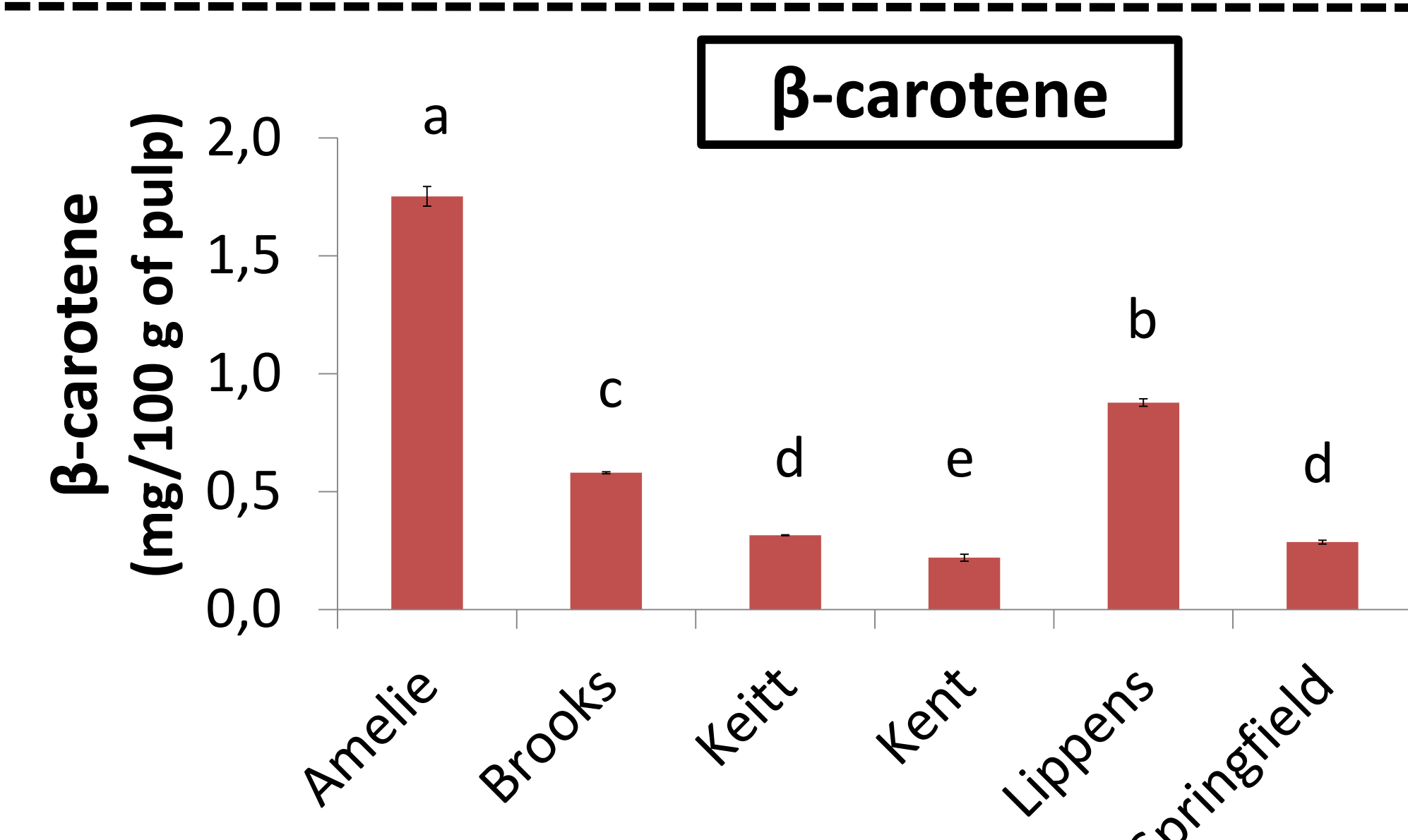
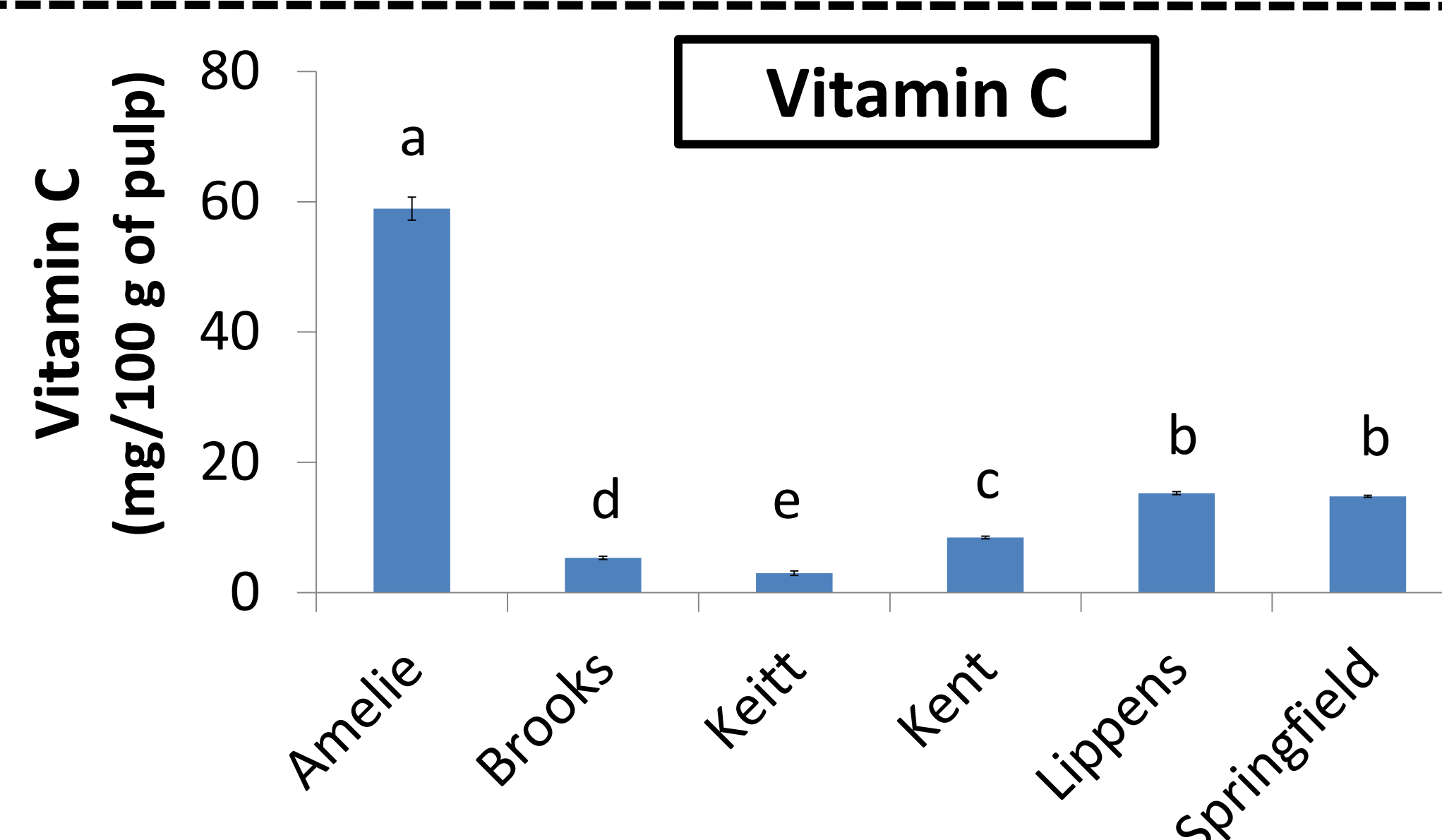
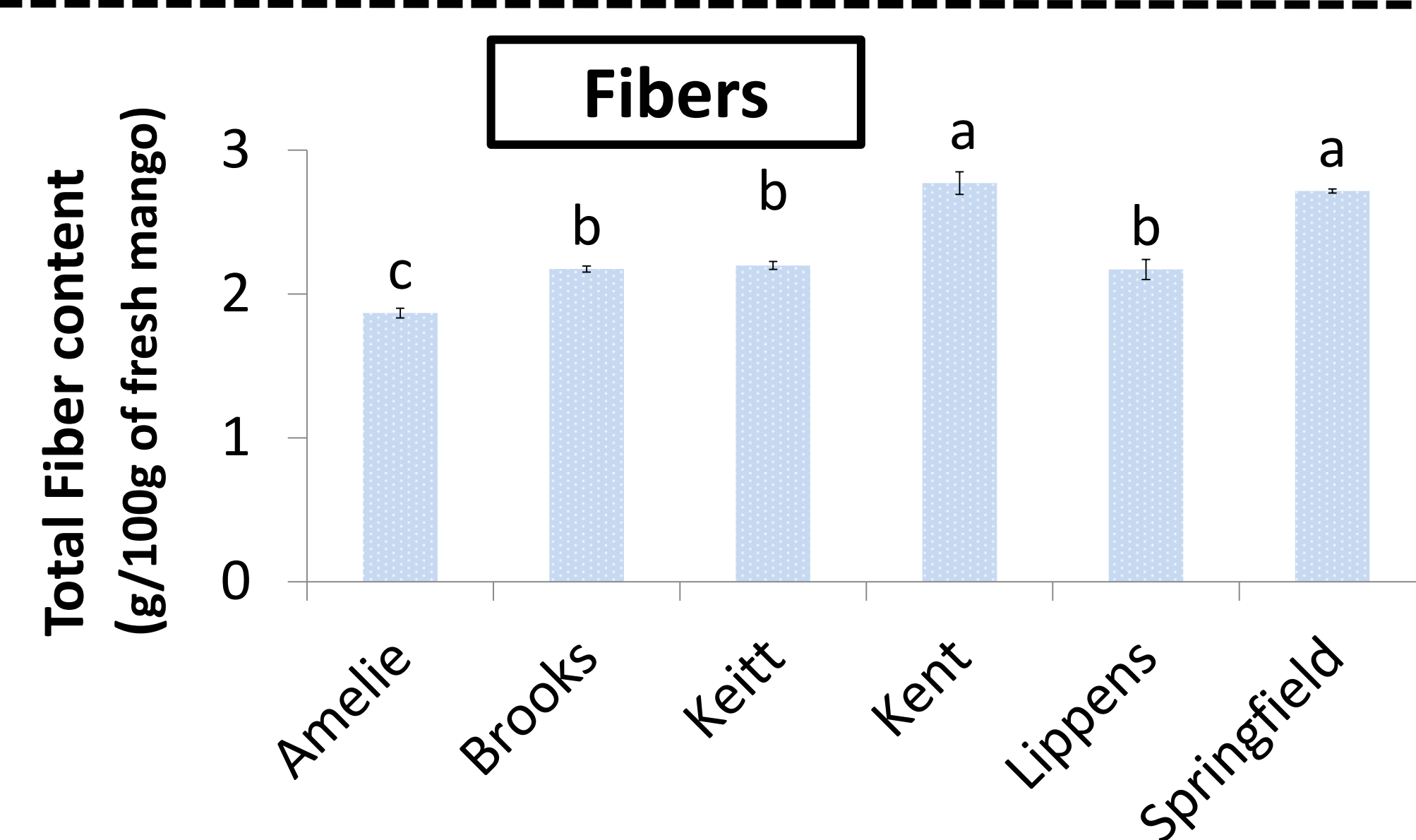
## Results & discussion

	Amélie	Brooks	Keitt	Kent	Lippens	Springfield
TA (eq citric acid/100g of fruit)	1.56±0.01 <sup>a</sup>	1.24±0.03 <sup>c</sup>	0.56±0.00 <sup>e</sup>	1.49±0.00 <sup>b</sup>	0.32±0.02 <sup>f</sup>	0.86±0.01 <sup>d</sup>
pH	3.71±0.01 <sup>f</sup>	3.8±0.00 <sup>e</sup>	4.43±0.01 <sup>b</sup>	3.93±0.01 <sup>d</sup>	5.02±0.01 <sup>a</sup>	4.21±0.02 <sup>c</sup>
SSC (°Brix)	17.5±0.17 <sup>e</sup>	22.53±0.06 <sup>b</sup>	21.97±0.06 <sup>c</sup>	23.1±0.00 <sup>a</sup>	20.7±0.00 <sup>d</sup>	22.67±0.15 <sup>b</sup>
SSC/TA	11.24±0.17 <sup>f</sup>	18.15±0.43 <sup>d</sup>	39.24±0.10 <sup>b</sup>	15.54±0.01 <sup>e</sup>	62.59±0.55 <sup>a</sup>	26.27±0.32 <sup>c</sup>



The varieties Amélie and Lippens stand out with a very different profile.

YI higher for the Lippens variety.



Amélie variety contains the highest levels of β-carotene and vitamin C.

Kent variety contains the lowest β-carotene content, but it has the highest total fiber content.

## Conclusions & Perspectives

- Amélie, Brooks and Kent have a low SSC/TA ratio  
→ recommended usages: puree, concentrates or drinks.
- Lippens, Keitt and Springfield have the highest SSC/TA ratio  
→ recommended usages: drying, frozen pieces or canned mangoes.
- Nutritional compounds will allow a better valorization (ie : vitamin C & β-carotene = Amélie, Fibers = Kent & Springfield)
- Some examples of the classic and alternative processing
- 14 other varieties of mangoes from Burkina Faso, not well known and still unprocessed are currently studied for a better valorization

### Classic technologies



Juice of mangoes



Dried mangoes

### Alternative technologies



Fried mangoes

Frying by immersion



Frying pan



Candied mangoes



[1] SNV, 2014 & PTRAMAB, 2017

[2] Rivier M. *et al.*, 2005

[3] Kaushik, N. *et al.*, 2014