

## Determination of content compounds with antioxidant activity in six ecotypes of blackberry (*Rubus glaucus*) depending on the maturity

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Palavras Chave: *Rubus glaucus*, blackberry, mora de castilla, TPC.

### Introdução

The blackberry (*Rubus glaucus*) is one of the most promising fruits that grown in Colombia, this one is in a process of market expansion, given its excellent sensory characteristics (aroma pleasant and bright color). The blackberry is a not climacteric fruit and highly perishable.

With the aim of exploring the nutraceutical potential of this fruit, physicochemical parameters were determined ( $^{\circ}$  Brix, pH and acidity), the total phenols content-TPC (Folin-Ciocalteu method) and anthocyanins content (pH differential method) from six blackberry ecotypes (guatica-**G**, hartona-**H**, moron-**M**, pasca-**P**, seed castilla-**SC** and spineless-**SL**), each one of these in three stages of maturity (III, IV and V); the blackberry in III stage is unripe, normally the fruit is harvested in V stage<sup>1</sup>. Additionally, we have evaluated the level of production of each ecotype. All the samples were collected in Sylvania, Cundinamarca.

### Resultados e Discussão

To the *R. glaucus* fruit, as for the variation of physicochemical parameters versus of maturity, all ecotypes showed a normal behavior (if the maturity advancing, increases the  $^{\circ}$ Brix and the acidity decreases).

TPC in **G** ecotype tends to increase with advancing maturity. In contrast, the TPC in **SL** and **M** ecotypes decreased with the maturation increasing. **H** and **P**'s TPC had a maximum value in the maturity stage IV, in contrast **SC** that showed a minimum value at that point. In general, in the studied ecotypes, the anthocyanin content tends to increase with advancing maturity, which is directly related to proportional increases in the ripe index (RI) and  $^{\circ}$ Brix.

Generally, these trends, in various stages of maturity for blackberry fruits have not been reported. These studies have been done on ripe

physiologically fruit<sup>2,3</sup>.

The values of TPC in to the maturity stage V of the studied ecotypes were found between 77.04 and 263.08 gallic acid equivalent/100 g of fresh fruit (ff) and of anthocyanins were found between 29.42 and 50.00 mg/100 g ff. Similar values have been reported by some authors in the same specie<sup>2,4</sup>.

The higher content of TPC was present to the **SL** ecotype, and the **H** ecotype presented the highest anthocyanins content. The highest fruit production was presented by **SL**.

### Conclusões

The important TPC in the **SL** ecotype and of anthocyanins in the **H** ecotype, suggests that these ecotypes may have a high antioxidant capacity.

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