Introduction
One of the largest costs in producing fresh-cut apple slices is the anti-browning solution. Therefore, the elimination or any reduction in the amount of solution required would be very beneficial to the producer.

Some apple varieties brown more quickly and severely than others upon cutting, depending on the inherent amount of responsible enzymes and antioxidant levels.

Objective
The objective of this work has been to evaluate the browning potential of several new apple varieties, including ‘Ambrosia’, ‘Aurora Golden Gala’, ‘Galarina’, ‘Gold Rush’, ‘Honeycrisp’, and two recent selections from Quebec (incl. ‘Eden’).

Materials and Methods
Fruit from each variety were harvested either in Ontario and/or British Columbia during commercial harvest and stored at 0-1°C for 1-3 months. Several fruit were then removed periodically throughout the storage duration and sliced within 1 hour. After cutting, the slices were rinsed in running tap water, allowed to drip dry, and placed into zip-lock bags. Slices in bags were held at 4.5-5°C for 1-3 weeks and then assessed for browning.

Flesh and core tissue browning were determined subjectively on a 1 to 3 scale, where 3 = moderate to severe browning in localized areas or over the whole slice, 2 = slight browning, and 1 = no browning (Tables 1 and 2).

Overall browning and decay were evaluated using 1 to 9 scales (University of California, Davis), where 1 = extremely poor, fungal decay, 3 = poor, limit of usability, 5 = fair, deterioration evident but not serious, limit of marketability, 7 = good, minor symptoms, and 9 = excellent, no deterioration (Table 3).

Results and Discussion
Overall, ‘Eden’ and the other Quebec selection showed the least amount of browning, with slight to none. The other varieties all exhibited some degree of moderate to severe browning at one or both locations (Ontario and BC).

When post-cutting treatments were evaluated for ON and BC-grown ‘Ambrosia’, results on quality retention were similar for both growing areas.

Conclusions
• Differences exist in the browning potential of slices, among the various apple varieties
• New selections from Quebec appear to be more resistant to browning
• Growing location may be a factor in the degree of browning, but not consistently so
• ‘Ambrosia’ responds similarly to post-cutting treatments whether they are grown in ON or BC

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