

EXPLORING
THE DARK SIDE



Contract Testing Inc.



INTRODUCTION

Last year we shared the results of a product test of milk chocolate bars – so to be fair, and as a nod to its continued growth and popularity, this year we decided to have a closer look at dark chocolate. Of course the bona fide birthright of chocolate does lie with the ‘dark’ version. The first historical mentions of chocolate were close to 3000 years ago in Central and South America where it began as a bitter drink made from cacao seeds, which was often used for medicinal purposes.

It really wasn’t until the 19th century that dry milk was added to make milk chocolate – thanks in most part to the Swiss who are still well known for their world class milk-chocolatiers. Milk chocolate soon became the most popular form of chocolate. In fact, thinking back a few decades, you may recall that dark chocolate was mainly sold and used for the purpose of baking – at least in the mainstream Canadian market. But in recent years, the popularity of dark chocolate has been on the rise. Many iconic chocolate bar brands are now offered in dark chocolate variations of the original. The growth of dark chocolate has been fuelled largely by its claimed health benefits – it is packed with antioxidants and has been known to lower blood pressure and cholesterol.

But the complex flavour profile of dark chocolate is not for everyone, and with our modern day food culture rooted in milk chocolate, we wondered whether consumer palettes are truly ready to embrace the dark side.

MATERIALS AND METHODS

We asked 50 females from the Greater Toronto Area who regularly consume dark chocolate, to taste and evaluate 4 brands of plain dark chocolate. The test array included two brands with approximately 50% cocoa and priced at \$2.99 per 100g, and two premium priced brands (around \$3.99 per 100g) with higher cocoa inclusion (around 70%). Each respondent tasted one square or piece of each bar which were presented in varied order. And because most chocolate brands have embossed branding on each piece of chocolate, participants were blindfolded to avoid easy brand identification.



DARK INSIGHTS

Before the chocolate tasting began, we asked a few usage and attitude questions about chocolate, with a specific focus on premium vs non-premium, and dark vs milk. The bulk of our panel (72%) said that they regularly consume both 'everyday' chocolate and 'premium' chocolate depending on the occasion or how they feel at the time and most of our dark chocolate consumers regularly pay attention to the percentage of cocoa listed on the package. Among them, nearly all claim that they prefer a chocolate with 70% or more cocoa.

And when it comes to the benefits of Premium chocolate over mainstream 'Regular Priced' chocolate, the top benefits were better quality ingredients and the richness of flavour, while organic, new flavour combinations, ease of handling and packaging had very little relevance (Table 1).



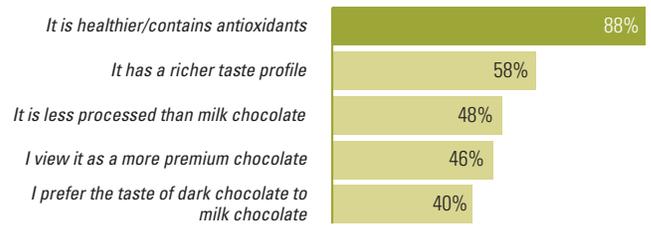
Table 1 – Perceived Benefits of Premium Chocolate over Regular Priced Chocolate

Benefits that were Most Important (Percent Chosen as a 'Top 3' Benefit)		Benefits that were Least Important (Percent Chosen as a 'Top 3' Benefit)	
Made with better quality ingredients	64%	It's organic	12%
It has a richer flavour	62%	New and interesting flavour combinations	12%
Made with natural ingredients	46%	Easier to handle (e.g. to separate pieces)	10%
It has a creamier texture	34%	It has premium packaging	0%



We also asked them for specific reasons why they purchase dark chocolate and overwhelmingly the top reason was because it is healthier and contains antioxidants. Other top mentions were because it has a richer taste, is less processed, and is more premium than milk chocolate (Fig. 1).

Figure 1 – Reasons for Purchasing Dark Chocolate

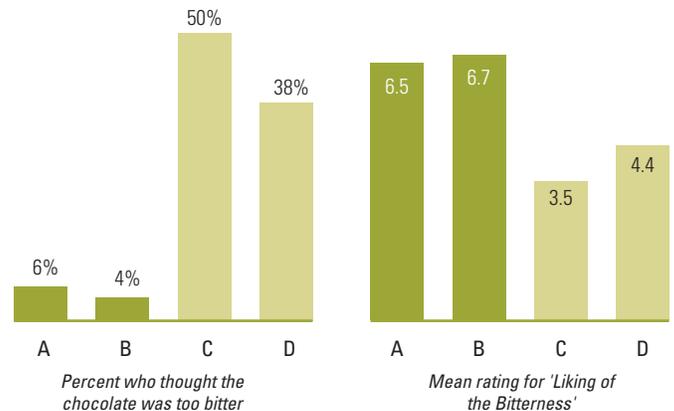


DARK CONTRAST

Despite the fact that the majority of our testers claim to purchase dark chocolate with 70% cocoa or more, when put to the test, it was the two bars with lower cocoa that were actually liked best.

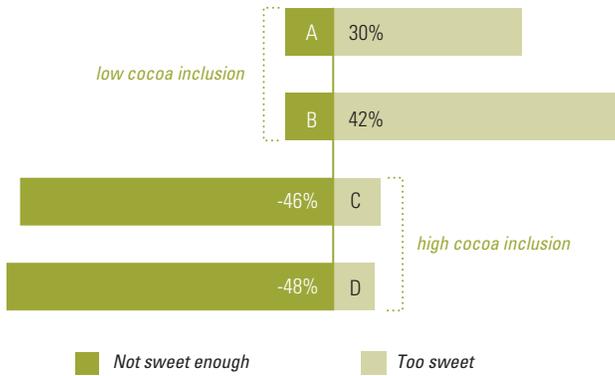
Contrasting the two lower cocoa bars with the two higher cocoa bars, there were very different profiles which characterize each. The flavour profile of the high cocoa samples was significantly more bitter and less sweet while texturally they were much less creamy with a significantly slower melt rate than the lower cocoa chocolate bars. Our respondents were much more partial to low bitterness (Fig 2), and high bitterness was linked to a stronger, less pleasant aftertaste.

Figure 2 – Bitterness



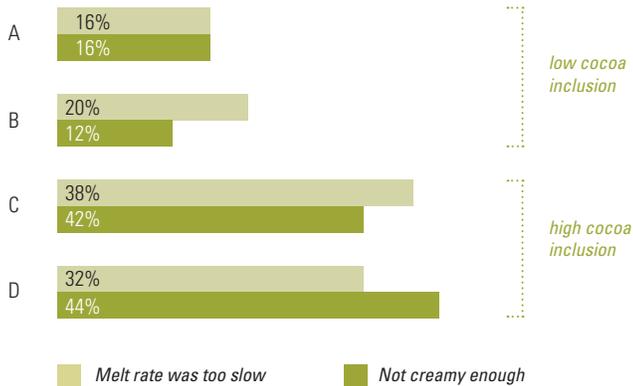
When it came to the intensity of sweetness, none of the bars actually hit the mark (or should we say the 'sweet spot'?). The lower cocoa chocolates were both too sweet, while the higher cocoa counterparts were not sweet enough.

Figure 3 – Sweetness Profile



There were no significant differences in 'liking' of the overall texture among the four products, but the higher cocoa chocolate was significantly less creamy with a much slower rate of melt.

Figure 4 – Melt Rate and Creaminess



EMBRACING THE DARKNESS

Similar to product categories such as wine, cheese, and coffee, the sensory profile of dark chocolate is complex. It is a balance of characters - bold and delicate, bitter and sweet, smooth and acidic. An award-winning dark chocolate may be misunderstood by the everyday consumer, while bars that fly off the store shelves may be mocked by the expert chocolatier.

But as consumer interest in dark chocolate continues to grow, spurred by the benefits calling out to growing masses of health conscious eaters, they will also become more demanding and curious about quality chocolate.

One interesting observation in our findings is the fact that most of testers claim to regularly purchase chocolate with higher cocoa content (70% or higher), yet in blind tasting they actually liked the lower cocoa chocolate better. Perhaps as consumers shift to darker chocolate, our palettes will become more discerning and accepting of more bitter and less sweet - things that are now described as shortcomings, will later be understood as the hallmarks of quality chocolate.

Quite simply, dark chocolate with lower cocoa is more akin to the taste and feel of milk chocolate – a profile which we have come to know and love over the past century. While dark chocolate may be experiencing a renaissance, it may be some time before our palates have adjusted and are more welcoming of the bitter taste notes and slower melt rate. So while consumers are being increasingly enticed to the dark side... it just may take a while for our senses to see the light.



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