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Grinding Cocoa Changes Chocolate Properties

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Grinding cocoa changes chocolate properties.

Honduran chocolate differs from other dark chocolates.

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Commercial chocolate prioritizes consistency over quality.

Most commercial chocolate is made from beans from multiple sources. Usually, this sacrifices uniqueness in flavor and texture for better product consistency.

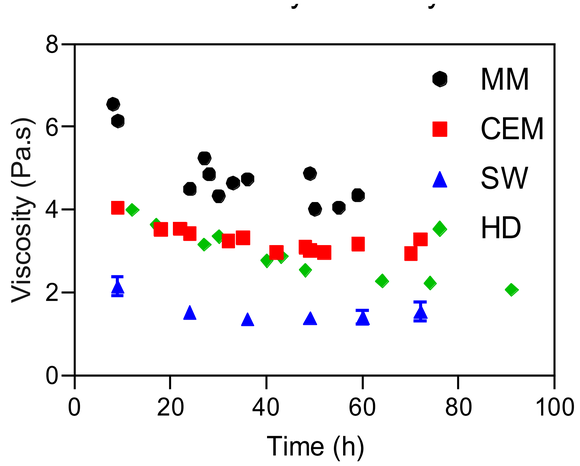
This research helps to identify the unique properties of chocolate from each of these sources.

Credit: Aggie Chocolate Factory

Testing chocolate properties

We test the viscoelastic properties as a function of grinding time of single-origin chocolates made by the Aggie Chocolate Factory. Using rheology, we measure their viscosity and shear stress. We measure each sample's particle sizes using a particle size analyzer. Swiss, Honduras, Costa Esmeraldas Milk, and Maya Mountain chocolates are presented.

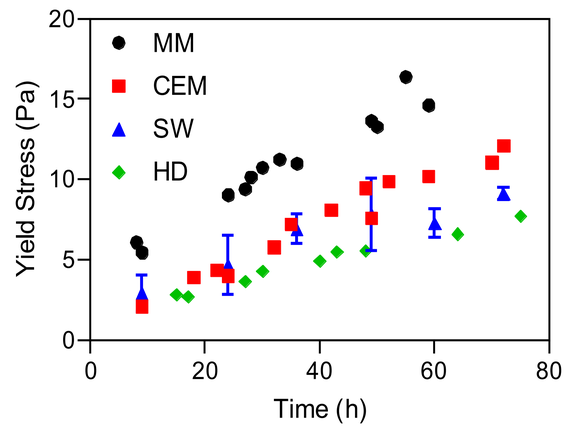
Viscosity Of Chocolates



Dark, milk, and milk sweet chocolates have different viscosity and yield stress depending on their origin and type.

Honduran chocolate, which is dark, has much lower viscosity and yield stress than other dark chocolates.

Yield Stress Of Chocolates



Honduran chocolate is unique, but maybe not better.

Single-origin chocolates' viscoelastic profiles are consistent with known multi-origin chocolates' profiles.

- Milk chocolate has lowest viscosity.
- Dark chocolate has highest viscosity and yield stress.
- Particle size is related to viscosity, yield stress.
- Honduras chocolate is unique from other dark chocolates.

Multi-origin chocolate **sacrifices the uniqueness** of its components.

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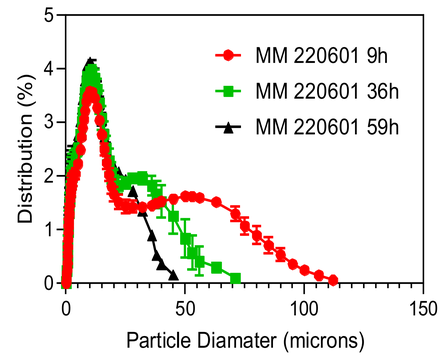

Particle size decreases with increasing grinding time.

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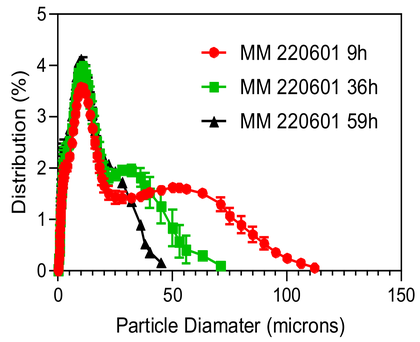

Extra results

Decreasing particle size helps to decrease viscosity and increase yield stress.

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