



RapidRAW Honey Analysis

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SERI KAYANGAN MARKETING

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Executive Summary

RapidRAW™ is a new method developed to rapidly precipitate a biological material, mainly proteins from water based solution. The method, when applied to raw and pure honey samples, will form a precipitate which then proved to be a mixtures of protein and carbohydrate. The same method when applied to sugar concoction somehow fail to form a precipitate. The different reactions somehow, which when performed on fake honey suggesting a missing content of biological material, thus making it possible to differentiate this two products.

RapidRAW™ adalah satu kaedah baru yang dibangunkan untuk memendakkan bahan biologi, terutamanya protein daripada larutan berasaskan air. Kaedah ini, apabila digunakan untuk sampel madu mentah dan asli, akan membentuk mendakan yang kemudiannya terbukti menjadi campuran protein dan karbohidrat. Kaedah sama apabila digunakan untuk campuran gula bagaimanapun, gagal untuk membentuk mendakan. Tindak balas berbeza (tiada mendakan) yang diperoleh daripada madu tiruan mencadangkan ketiadaan bahan biologi, sekali gus mampu membezakan produk madu asli dan tiruan

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RapidRAW Method of Detection

1. Use three (3) drops of sample in clean microtube.
2. Add five (5) drops of Reagent 1 (R1) to sample and mix until dissolve*(2R1).
3. Add seven (7) drops of Reagent AJ (R2) into mixture and mix for 5 seconds.
4. Let the tube stand in vertical position for 2 minutes to allow sedimentation.

1. Masukkan tiga (3) titis sampel ke dalam tiub mikro.
2. Tambah lima (5) atau sepuluh (10) titisan Reagent 1 (R1) dan goncang sehingga sampel larut.
3. Tambah tujuh (7) titisan Reagent AJ (R2) ke dalam campuran dan goncang selama 5 saat.
4. Biarkan tiub dalam kedudukan menegak selama 2 minit untuk membolehkan pemendapan berlaku.

RESULTS

Reaction Profiles

S4804 MADU TUALANG

✓
pH 4.14

Figure 1. RapidRAW reaction profiles

Sample S4804 were tested show sediment for biological material. The positive sample should have resulted in a solid sedimentation after 2 minutes, similar to positive control, while the P and negative result, showed little to no trace of biological materials, similar with adulterated (mixture of authentic and sugar syrup), processed (over-filtered authentic honey) or negative control (control sugar syrup) (Figure 1, Table 1).

Therefore,

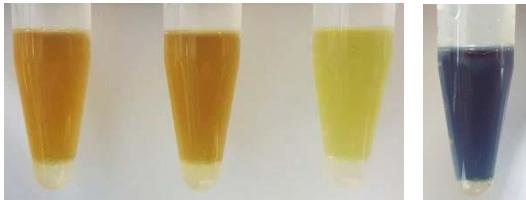
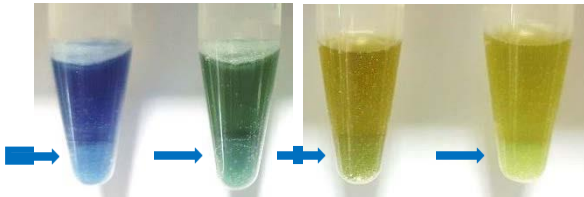
1. Sample S4804 are classified as similar to raw honey profile.

Sampel S4804 telah diuji mengandungi bahan biologi. Sampel positif sepatutnya menunjukkan pendedapan pepejal di dasar tiub selepas 2 minit, menyamai tindaklas seperti kawalan positif, manakala keputusan P dan negatif, menunjukkan kesan bahan organik yang sedikit sehingga tiada kesan, menyerupai hasil tindakbalas kawalan 'adulterated' (campuran asli dan sirap gula), madu proses (asli saringan) atau negatif (kawalan sirap gula) (Rajah 1, Jadual 1).

Oleh itu,

1. Sampel S4804 dikelaskan sebagai menyamai profil kawalan madu mentah.

Table 1. Reaction profiles references

Sample	Profile
Negative control (✗) Indicator: Clear base, no sediment Explanation: No trace of biological material which usually found in raw honey	
Positive control (✓) Indicator: Solid base, with sediment Explanation: Contain trace of biological material which usually found in raw honey	
Processed Honey profile (P) Indicator: Clear base with foam Explanation: -Inconclusive for adulterated and processed (by excessive filtration) honey	

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End of Report