

Mooie beloftes, hoe onderbouw je ze?

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Speciale kwaliteit, karakterisering

- Samenstelling
- Waar en hoe geproduceerd?
 - Biologisch, duurzaam, met oog voor dierenwelzijn, fair trade, bird friendly
 - Geografische herkomst
 - Productie/processing: typiciteit

typicality

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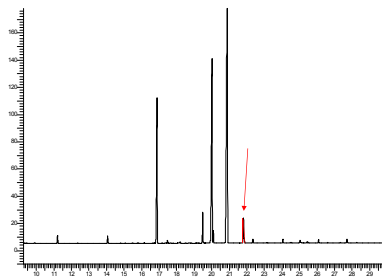
Analytische onderbouwing

- Eigenheid
- Echtheid



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Enkelvoudige merkers



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Manuka honey



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Manuka honing

- Van de nectar van *Leptospermum spp* of de Manuka struik in New Zealand en Zuid-Australië
- Antibacteriële werking
- Prijs tot ca. 60 euro/pot



J. Appl. Bacteriol. 1992 Nov; 73(5): 389-94

A comparison of the sensitivity of wound-infecting species of bacteria to the antibacterial activity of manuka honey and other honey.

Wilkie DJ¹, Maken FC, Iserfoot CG.

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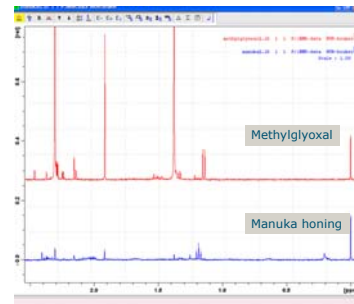
Honing studie

- Ca. 230 monsters, ~25% Manuka honing
 - Commercieel gecertificeerde honing
 - Honing direct van imkers en Manuka organisatie

- Analytische karakterisering
 - NMR voor actieve componenten
 - Proton Transfer Reaction Mass Spectrometry voor vluchtige stoffen
 - (Near Infrared Spectroscopy
 - LC fingerprinting)



Methylglyoxal: de actieve component



Pack size	Shipping cost	Price	Qty
100 g	November 22, 2013	72.00 USD	<input type="checkbox"/>
500 g	November 22, 2013	163.00 USD	<input type="checkbox"/>
1 kg	November 22, 2013	307.00 USD	<input type="checkbox"/>



Stung by fraudsters: How cheap honey is being sold as 'liquid gold' manuka variety at £45 a jar

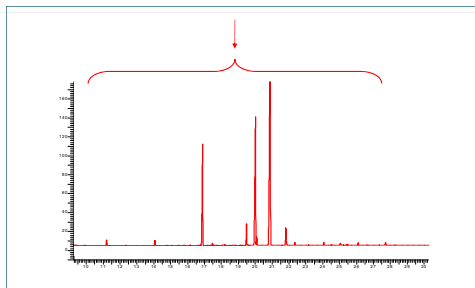
- Its antibacterial properties are thought to help combat various ailments, including skin problems
- Higher and ever-increasing volumes of honey being labelled as manuka that are not manuka
- Celebrities who use the honey include singer Katherine Jenkins and tennis champion Novak Djokovic

By Daily Mail Reporter
PUBLISHED: 21:07 GMT, 28 August 2013 | UPDATED: 12:45 GMT, 28 August 2013

The main honey suppliers' organisation in New Zealand believes 1,700 tons of manuka honey are produced there every year, but 1,800 tons are being sold in the UK alone.

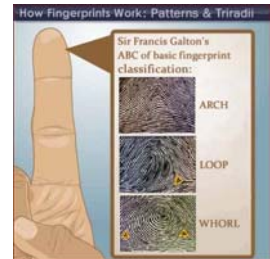


Range van merkers: patronen



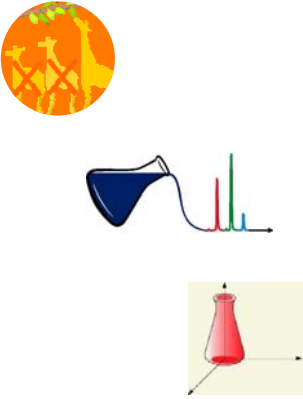

Multi marker fingerprints?

Vingerprint van productgroep versus andere productgroepen






Algemene aanpak

- Selectie merker groepen
- Selectie analytische techniek
- Selectie/optimalisatie van statistische modellen

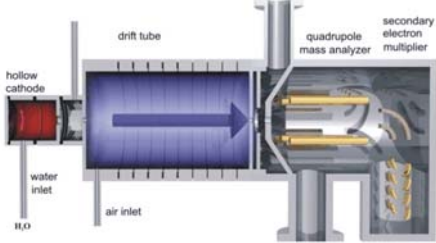




PTR-MS analyse

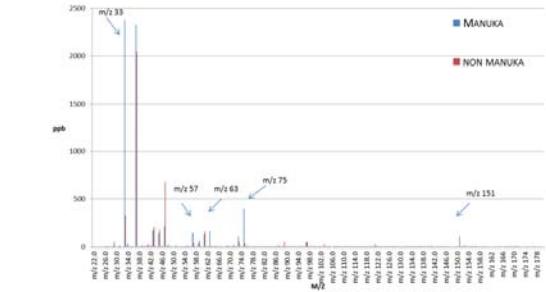





Proton Transfer Reaction Mass Spectrometry

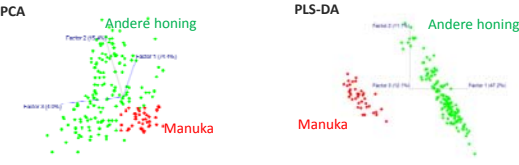

- Analyse van vluchtige stoffen

PTR-MS Manuka vs non-Manuka

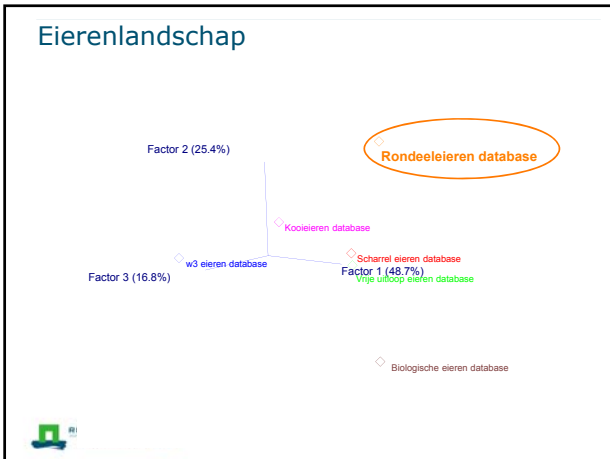



Voorbeeld Manuka honing

Eieren vergelijking: vetzuur- en carotenoiden-profileringen



Production history

- Geographical origin of sustainable palm oil
 - Fingerprint techniques

Palm Oil introduction

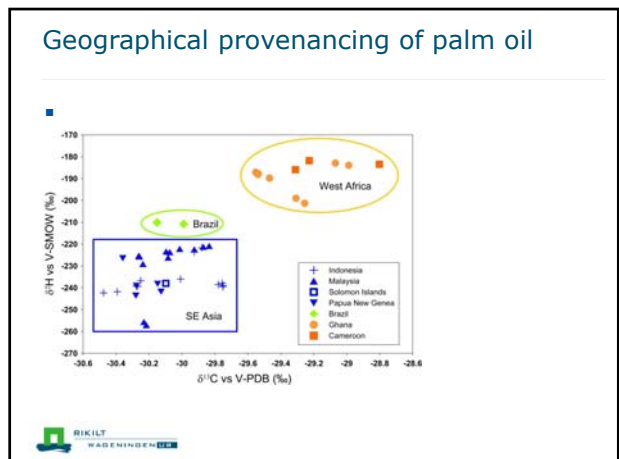
- Palm Oil is one of the worlds oldest and largest food in the edible oils market. It makes up for 60% of the oil market.



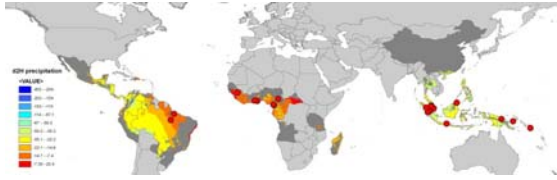
Geographical provenancing of palm oil

- 44 crude samples from 8 countries

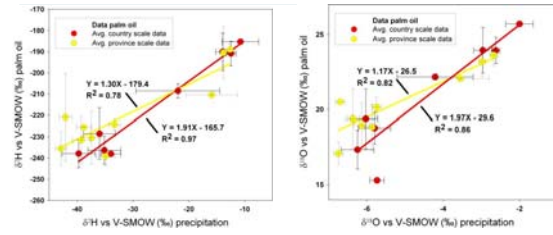
- $\delta^2\text{H}$, $\delta^{18}\text{O}$ and $\delta^{13}\text{C}$ by "classical" EA-IRMS
- Fat profiling



Geographical provenancing of palm oil



Geographical provenancing of palm oil



Relation between $\delta^2\text{H}$ in global precipitation and $\delta^2\text{H}$ in palm oil

Relation between $\delta^{18}\text{O}$ in global precipitation and $\delta^{18}\text{O}$ in palm oil



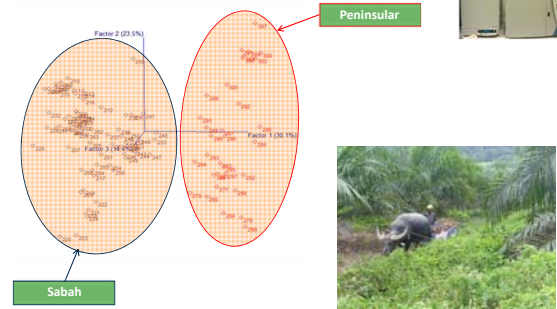
Malaysia



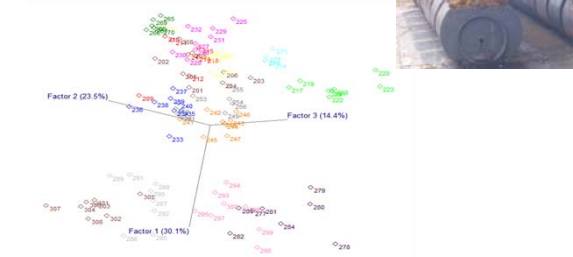
Zooming in: SE Asia

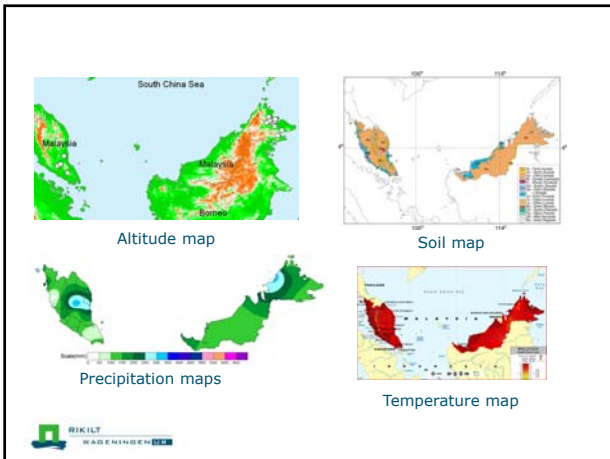


Detailed oil profiling



Profiles of oils from mills





2014

- Re-sampling
- Final models



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Conclusies

- Voorbeelden analytische onderbouwing eigenheid - echtheid
 - Bepaling actieve stof: MGO in honing
 - Multivariate benchmarking: Honing en rondeleieren
 - Linking productiewijze aan locatie: Duurzame palmolie



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Dank voor uw aandacht

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