

# Personal Allergen Testing



ICFA2018: Adrian Rogers

# Why Consumers Want to Test

## Allergies

### Restaurant owner jailed for six years over death of peanut allergy customer

Paul Wilson died after Mohammed Zaman swapped almond powder for cheaper one containing peanuts



Press Association

Tue 24 May 2016 07:51 BST

## UK news

### Two men charged with manslaughter over nut allergy death of teenager

Megan Lee, 15, had an allergic reaction after eating food from Royal Spice Indian takeaway in Hyndburn, Lancashire



Patrick Greenfield

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Tue 5 Dec 2017 20:26 GMT

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# Personal Allergen Detection Devices



WHAT'S IN YOUR FOOD?



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# Personal Allergen Detection Devices



# The Pro's

- Can help consumer identify risks early
- Can support healthy lifestyle / support dietary needs
- Can help manufacturer reduce food safety risks
- Are Affordable



# Analytical Challenges

- Every food is different and presents it's own unique challenges with analytical analysis
- If there is any doubt about how a food will perform **VALIDATE**
- Knowledge is power, know your food



# Sampling



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# Sampling



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# Sampling

[Judith Morrison](#)

[@JLMo](#)



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# Challenge: Misinterpretation

What the British say	What the British mean	What others understand
I hear what you say	I disagree and do not want to discuss it further	He accepts my point of view
With the greatest respect...	I think you are an idiot	He is listening to me
That's not bad	That's good	That's poor

# Challenges: Specificity / Selectivity / Imprecision



# Challenge: Data Quality



- Possible description by consumers:
- Fruits
- Apples
- Granny Smith or Braeburn
- Cooking apple

Specific details are important if only one variety has a problem



# Challenge: Technology Abuse



# A Quite Possible Scenario



# Consequences: Social Media



# Consequence: Food Manufacturers



# What has been done so far

POPPING ET AL.: JOURNAL OF AOAC INTERNATIONAL VOL. 101, NO. 1, 2018 185

## SPECIAL GUEST EDITOR SECTION: FOOD ALLERGENS NEW METHODS

### Stakeholders' Guidance Document for Consumer Analytical Devices with a Focus on Gluten and Food Allergens

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## Guidelines acceptable by all stakeholders:

- Device manufacturers
- Food industry
- Consumer representatives  
Laboratories
- Lab Assay Developers
- Regulators



# What has been done so far

## Stakeholders' Guidance Document for Consumer Analytical Devices with Focus on Gluten and Food Allergens

- Customer support or help line
- Test performance and limitations
- Sampling

# What has been done so far

- Interpreting results
- Reagent safety and disposal
- Independent validations/certifications

Special Allergen addition of JAOAC published Jan 2018

# Third Party Validation

*Journal of Food Protection*, Vol. 81, No. 10, 2018, Pages 1723–1728

doi:10.4315/0362-028X.JFP-18-184

Published 2018 by the International Association for Food Protection

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## Research Note

### Evaluation of a Handheld Gluten Detection Device

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MS 18-184: Received 27 April 2018/Accepted 28 June 2018/Published Online 21 September 2018

# Third Party Validation

“The Nima device has some limitations”.

“We made no attempt to evaluate its performance when used improperly and would encourage consumers to follow the use instructions”

“Based upon the results, the small sample provides reliable results when the gluten is well distributed in the tested food. However, the presence of gluten-containing particulates could be missed with this sampling device.”

“The sampling problem with particulates is a key issue with the Nima device. Consumers would need to take multiple samples to increase reliability when particulates are suspected.”

# Other Opinions



[https://www.anaphylaxis.org.uk/  
@Anaphylaxiscoms](https://www.anaphylaxis.org.uk/@Anaphylaxiscoms)

Expert Panel at Corporate Conference  
“Don’t touch with a bargepole”

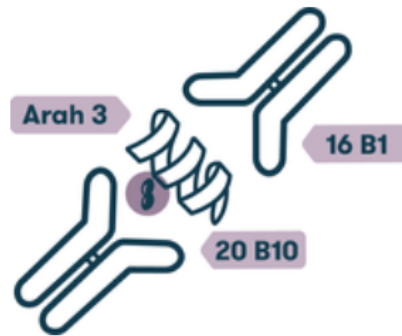


# NIMA Peanut Sensor



# NIMA Peanut Sensor

## The Peanut Antibody



The Nima chemistry team developed a pair of antibodies specifically for the detection of peanut. There are existing peanut antibodies on the market, but none of them were sufficient to meet the speed, sensitivity and specificity requirements that we needed for Nima. The Nima 20B10 and 16B1 antibodies bind to a peanut protein called Arah3. Although not the most antigenic, it is abundant in all types of peanut and is more stable under processing conditions such as heat due to roasting.

To read more about how the antibody is used in the Nima Peanut Sensor, please review the [peanut manual](#).

# NIMA Peanut Sensor

## Warning

Nima test results are only representative of the sample tested and is not a guarantee of the entire dish. Use of this product should not replace education, medical advice, compliance with food labeling and adherence to avoidance strategies. Failure to use this product in accordance with the instructions could result in serious injury or death. Read full directions in this manual before use.

## Product Limitations

Nima is another tool to help you understand if there is peanut in your food. Nima has been developed and validated to test food items only (both solids & liquids). Nima has not been validated on medication, cosmetics or non food items. Nima only tests the sample that is in the device and therefore, Nima does not guarantee that your entire item or dish is peanut-free. Please use your best judgement when choosing what to consume.

# NIMA Peanut Sensor

## Do Not Test

Based on internal lab testing, the Nima Peanut Sensor may incorrectly show a 'Peanut Found' message when testing foods containing the following items:

- Sesame
- Tamarind
- Tomato Paste / Sauce
- Eggplant
- Cayenne
- Paprika
- NOS Energy Drink

Anytime you get a Peanut Found result, we always recommend that you DO NOT consume the dish.

Based on internal lab testing, the Nima Peanut Sensor may incorrectly show a 'Smile' message when testing foods containing the following items:

- Solid Chocolate (bars, uncooked chips, etc.)
  - If the chocolate is manipulated into a different form (softened, melted) and ground prior to testing, Nima can test it.
- Alcohol

# Conclusions

- Testing food is difficult
- Big data good/bad
- The technology is wonderful  
(I wish we had done it)
- In my opinion should not be used by an allergic individual





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# **Thank you!**



[www.romerlabs.com](http://www.romerlabs.com)