Missed opportunities for reducing the acrylamide exposure of consumers

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Gregor McCombie, Kantonales Labor Zürich, Meeting on the outcome of the public consultation on “Acrylamide in Food”, 10.12.2014, Brussels
Replace Recommendations

• EFSA concludes dietary AA is of concern
• In 12 years next to no improvement for consumers
• More detailed investigations should not be a priority

• The main recommendation should be the evaluation of options for mitigation and their effects on consumer exposure

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Rösti

Source: http://www.klzh.ch, Lebensmittel, Merkblätter, Acrylamid: Hintergründe und Tipps

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Exposure assessment is biased

- Home cooking underestimated

- A single portion (250 g) of Rösti can contain 500 – 1250 μg AA; every third day for an adult (60 kg) results in 2.8 – 6.7 μg/kg b.w./day from Rösti alone

- The 95th percentile for adults derived in the opinion is at most 2 μg/kg b.w./day
Mitigation: Potatoes

- Regulation of reducing sugars in potatoes for certain uses i.e. chips (french fries) and rösti (fried potatoe products)
- Reducing sugars correlate with AA content
- Storage at 9°C prevents high sugar contents
- Choice of potato can have a real impact on AA exposure
  - chips <100 µg/kg AA are feasible
  - Mean (Chips) in opinion 308 µg/kg AA
  - 140 µg/kg to 1100 µg/kg
Mitigation: Ammonium and fryers

• Ammonium catalyses AA formation
  – AA reduction by
    • Avoiding ammonium (bi)carbonate
    • Use of asparaginase

• AA is formed at the end of frying
  – Decreasing temperature during frying reduces AA
Summary

• Main recommendation should focus on how effective mitigation can be achieved
• More accurate exposure assessment is unnecessary
• Suggestions for mitigation measures
  – Control of reducing sugars in potatoes
  – Asparaginase for ammonium carbonate dependant food
  – Improved Fryers
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Further reading


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