

Item 9: WRAP study on potatoes and acrylamide (reserved) (TOX/2020/27)

1. No interests were declared.
2. Will McManus, a representative from Waste and Resources Action Plan (WRAP) and study authors Mark Taylor and Rob Hancock, from the James Hutton Institute, were in attendance to answer questions on the study.
3. In line with requirements for potatoes used in food manufacturing, the Food Standards Agency (FSA) currently recommend to consumers that potatoes in the home should be stored in a dark cool place at temperatures above 6 °C, but not in the fridge. This is because keeping potatoes at refrigerator temperatures (< 6 °C) could lead to the process of “cold sweetening” and an increase in acrylamide levels, especially if the potatoes are fried, roasted or baked. Fresh potatoes are stored at <6 °C in the retail supply chain for up to ten months. The finding of the WRAP study had raised a logical hypothesis that home storage conditions would have a negligible effect on sugar content, which would render the current FSA guidance not appropriate. Storage of potatoes in the fridge could help reduce food waste by better preserving them.
4. Members discussed the design and conduct of the study and queried if all the data from the study had been input into one overall analysis of variance (ANOVA) to examine the impact of the different factors in the experiment (storage time, variety, storage temperature, supplier and time since harvest). The WRAP representative explained that their aim was to establish a single recommendation for all potatoes; the study author stated that an overall ANOVA was carried out and all factors including storage temperature were found to be significant at the 5% level.
5. Members had further concerns about variability between potato types and suggested that it would be useful if there were a table that showed the ‘headline’ statistical information on the key variables (temperature, type of potato etc). Businesses were engaged and working towards looking in more detail at variables such as commercial storage conditions, storage temperatures and crop maturity at harvest.
6. Comments were made on the choice of using a temperature of 18 °C as the temperature on day 0 (T0), as home conditions may vary. It was explained that the temperature had been taken from a published paper that looked at the typical home storage temperature of potatoes, so was therefore considered a representative temperature. Further comments were made on the apparent small sample size of potatoes that had been used in the study. It was clarified that a large number of potatoes had been used in the study.
7. Members discussed the conclusions of the study and it was noted that there would be no potential health issues (relating to acrylamide formation) if a consumer decided not to store potatoes in the fridge.
8. Members agreed that the study had demonstrated adequately that home storage of potatoes in the fridge presented no material increase in acrylamide forming potential of potatoes.

9. It was agreed that the Secretariat should publish the minutes once confirmation of the published paper was received.