Cooking with iodized salt sharply increases the iodine content in potatoes, pasta and rice

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The results showed that
• Cooking in iodized salt water increased the iodine content of all the products.
• Waxy and small potato pieces showed higher iodine uptake than big or floury pieces.
• Egg pasta showed higher iodine uptake than pure semolina pasta.
• No difference in iodine uptake between whole meal and normal pasta and rice observed.
• Water cooked rice showed higher iodine and water content than soak cooked rice.

There is a lack of reliable data about the stability of iodine compounds during cooking and food processing. The WHO estimates the loss of iodine from production site to household by 20% and another 20% during cooking. However, the justification for this statement is not clear. This study was conducted under the assumption that iodine added to food in the form of dissolved iodized table salt during cooking leads to an increase in iodine content in the cooked products. Potatoes, pasta and rice are common side dishes worldwide and are often cooked in salted water. These foods were therefore chosen in this study to investigate the effect of common household cooking procedures on the iodine content in potatoes, pasta and rice using KI03-iodized salt.

The results were notable: there was a large amount of iodine taken up in potatoes, pasta and rice during cooking in salted water (Figure 1); some tested products almost reached the iodine concentration of the cooking water. The iodine concentration can especially be increased in potatoes when slicing in smaller pieces. Regarding pasta, the results show that the iodine was mainly absorbed by the product and not only adhered to the surface, since the rinsing with water after the cooking led only to a slight loss in iodine content.
Based on these results, the authors recommend cooking food products in iodized salt water in order to enhance dietary iodine supply. Although the products tested in the study showed high iodine uptake, the results should not be extrapolated to other food products and further experiments are necessary to investigate the effect of cooking in iodized salt water on the iodine content of vegetables or other salt cooked products.

**FIGURE 1** Iodine contents of A) potatoes B) pasta and C) rice before and after cooking using iodized salt in the cooking water (15 g L−1, 7.5 g L−1 and 5 g L−1, respectively).