Resistant Starch: Nature's Solution to Hunger

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Resistant starches are resistant to digestive enzymes in the small intestine and have numerous health benefits. Naturally present in raw starchy foods, much of it is lost in the cooking process. Quinoa has recently been recognized as a healthy starch option, but has yet to be tested in this field. The purpose of the project is to test how different cooking methods affect resistant starch content in quinoa. Quinoa was prepared according to specified methods. All cooking methods were a variation of simmering. Using Megazyme Resistant Starch Assay Kit (colorimetric method), resistant starch was isolated. Results showed 4.2% resistant starch content in dry quinoa, 2.4% in cooled, 3.4% in simmered, 3.6% with lemon, and 4.0% with olive oil. Statistical analysis showed no difference between methods except that cooled samples contained significantly lower resistant starch content than dry samples ($P<0.05$). This cooling effect can be altered by the addition of lemon or oil. The results showed that cooled with lemon samples averaged 4.2% while cooled with oil samples averaged 2.7%. Cooled with lemon samples were statistically higher than original cooled samples in resistant starch content ($P<0.01$). The results supported the null hypothesis, but additional effects were found in cooling properties.