

Title Consumption of brown onion (*Allium cepa*) cultivars reduce the risk factors of cardiovascular disease  
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### **Abstract**

The aim of this study was to evaluate the potential cardiovascular health benefits of raw and cooked brown onion cultivars (*Allium cepa*) using the pig as a biomedical model. Two experiments were conducted; in the first experiment, pigs received a moderate fat (10% w/w) diet with 0, 10 or 12 g onions (Cavalier or Destiny cultivars)/MJ DE for 42 days, whereas in the second, the pigs received diets with 25% fat (w/w) supplemented with raw, fried or steamed onions (Destiny cultivar) at 21.4 g/MJ DE. Results showed that the levels of quercetin and the two major cysteine sulfoxides vary between onion cultivars and that these are decreased by common cooking methods. Consumption of the more pungent onion variety Destiny, resulted in a more pronounced reduction in total blood cholesterol, low density lipoprotein and triglycerides, than the milder Cavalier. Onion consumed either raw or cooked both provided antioxidant benefits. This indicated that even relatively subtle changes in diet, such as altering the cultivar of onion consumed, can affect some primary biomarkers associated with cardiovascular disease. Similarly, consumption of onions by pigs variably influenced lipid metabolism, especially triglycerides, in a dose dependent manner.