

## **Abstract**

Onions are valued for their flavour in the foods of many ethnicities and are increasingly recognized for their health-giving properties. Dry matter content is the primary characteristic of onion bulb quality, determining storability, flavour, texture and its most appropriate end-use. While the non-structural component of onion dry matter forms a substantial proportion of dry matter, the cell-wall located carbohydrates may also play a significant role in onion texture. We investigated the cell wall contents of two onion cultivars-the hard, pungent Pukekohe Longkeeper (PLK) and the softer, milder Grano - both grown under varying conditions of sulphur supply. PLK had higher levels of the non-cellulosic cell wall neutral sugars galactose, rhamnose, arabinose and xylose than Grano, on a fresh weight basis. The two cultivars had similar cellulose and total pectin contents, but differed in the amount of pectin that was solubilised by chelator and carbonate solutions. There were slight differences in the molecular size profiles of both the solubilized pectin fractions from each cultivar. Ratios of neutral sugars present in the carbonate-soluble pectin of Grano suggested that this pectin had a larger number of branch points than that of PLK, but that the branch length was probably shorter.