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COLD PRESSED AVOCADO OIL – A HEALTHY DEVELOPMENT

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Oils are the most important component of avocado fruit as they are a significant proportion of the dry matter of the flesh (mesocarp) and are responsible for the taste and mouth-feel that consumers demand in avocados. The extraction of oil from avocados has been carried out for many decades. However, the predominant use of the oil to date has been for cosmetics. This was mostly because of the high stability of the oil, and its Vitamin E (α-tocopherol) content. For cosmetic use, chemical extraction or high temperature extraction is acceptable and has been the standard manner of commercial extraction. Food processing companies in New Zealand have recently developed viable commercial cold pressed extraction techniques and these oils have been examined. The oil extracted is of a bright green appearance, and HortResearch has a trained sensory panel to carry out sensory analysis of oil samples. Panelists describe the positive attributes of avocado oil as smoky, nutty, buttery, grassy, with a slight hint of bitterness. The negative attributes have been described as being fishy, rancid, and painty. Negative attributes have been established by assessing improperly processed oils (e.g. oils extracted from rotten fruit, oils that have oxidised). We have also carried out a range of chemical analyses of this oil and found that it contains a wide range of compounds which are known to have health benefits. Alpha-tocopherol, which has been associated with the reduction in the incidence of cardiovascular diseases, was found to be approximately 12 –15 mg/g oil in cold pressed oil. Beta-sitosterol levels were found to be approximately 4.5 mg/g oil. Phytosterols (including b-sistosterol) inhibit intestinal cholesterol absorption in humans, lowering total plasma cholesterol and LDL cholesterol levels, and may offer protection against cancers of the colon, breast and prostate. We found a wide range of fat soluble pigments (carotenoids) in cold-pressed oil such as carotenes, xanthophylls and significant amounts of chlorophyll. Also of importance from a health perspective is the presence of lutein (a xanthophyll) which has been implicated in reducing age related macular eye disorders and the risk of cataracts. The ratios of monounsaturated (oleic and palmitoleic acid) to saturated fatty acids (palmitic acid) and of polyunsaturated (linoleic and linolenic acid) to saturated fatty acids, found in NZ-grown avocados compare favourably from a health perspective with those of the recommended olive oil. We will discuss how processing issues may affect oil quality in terms of its storage potential and health compounds. Clearly, avocado oil is a “healthy” oil, possibly more so than olive oil, and these health benefits should be promoted for both the oil, and the fresh fruit.