

Effect Of A Pecan Rich Diet On Plasma Tocopherol Status.

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Nuts are important sources of tocopherols (TOH) for human consumption. Pecans contain relatively small amounts of α -tocopherol but large amounts of gamma. The aim of this study was to investigate the effect of a pecan rich diet on plasma lipid and tocopherol levels. After an initial adaptation period, 23 subjects were fed in random order a diet rich in pecans (20% energy from pecans) and a diet free of nuts as reference, each for 4 weeks. Plasma tocopherols were determined by HPLC with fluorescence detection by a procedure which separates the β and γ forms.(Kramer JKG et al. Lipids, 32, 323-330, 1997). Because the pecan diet lowered plasma cholesterol, ratios of plasma tocopherol to cholesterol were computed.

<u>Plasma</u>	<u>Control diet</u>	<u>Pecan diet</u>	<u>P value*</u>
α -TOH ($\mu\text{g/ml}$)	10.60 \pm 4.64	9.11 \pm 4.16	< 0.001
α -TOH:Chol ($\mu\text{g/mg}$)	5.54 \pm 1.70	5.14 \pm 1.41	< 0.05
β -TOH ($\mu\text{g/ml}$)	0.27 \pm 0.10	0.23 \pm 0.10	< 0.001
β -TOH:Chol ($\mu\text{g/mg}$)	0.14 \pm 0.43	0.14 \pm 0.51	
γ -TOH ($\mu\text{g/ml}$)	1.55 \pm 0.58	1.57 \pm 0.57	
γ -TOH:Chol ($\mu\text{g/mg}$)	0.84 \pm 0.25	0.93 \pm 0.34	< 0.05

*Significance level determined by one-way ANOVA.

Plasma α - and β -tocopherol levels decreased significantly on the pecan diet. While absolute plasma levels of γ -tocopherol did not change, the ratio of γ -tocopherol to cholesterol increased significantly on the pecan diet.