ALFALFA SPROUTS AND CHOLESTEROL METABOLISM

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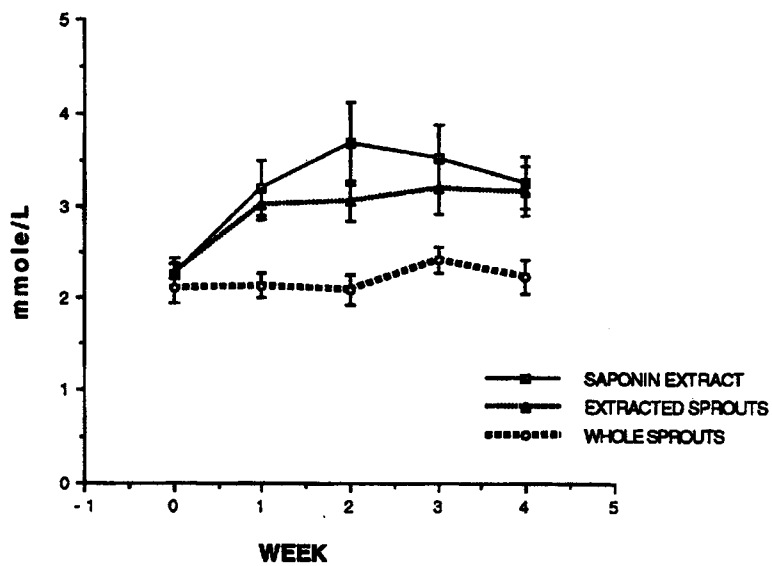
Isolated saponins are known to lower plasma cholesterol in a number of species. Alfalfa sprouts (*Medicago sativa* var.) contain a high percentage of saponins. We studied intact and extracted, commercially grown alfalfa sprouts, for their cholesterol-lowering effect in rats fed a cholesterol diet.

Heat dried alfalfa sprouts were sequentially extracted with acetone (to remove lipids) and then boiling methanol (to remove saponins). Three isocaloric, isonitrogenous diets were prepared based on AIN-76 and the proximate analysis of heat dried alfalfa sprouts. All diets contained 0.25% cholesterol and either 15% (w/w) heat dried alfalfa sprouts, 15% (w/w) alfalfa sprouts post extraction of lipids and saponins or saponin extract from 15% (w/w) alfalfa sprouts, respectively. The three groups of rats were fed for four weeks. Weights were recorded daily, blood was collected at 0, 1, 2, 3, 4 weeks and livers were taken at sacrifice. Plasma and liver cholesterol was determined enzymatically.

Body weights on all diets increased similarly, as did food intake. Plasma cholesterol rose significantly ($P < 0.05$) on extracted sprouts and saponin extract diets, but did not change on alfalfa sprout diet. Liver cholesterol displayed a similar trend but the difference was not significant.



Whole alfalfa sprouts prevented hypercholesterolaemia whereas diets containing the solvent extracted alfalfa sprouts and the saponin extract did not, suggesting unidentified components may be responsible rather than saponins alone.

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