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INCORPORATION OF TRITIUM IN GRAIN PLANTS

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Abstract -- Maize and barley plants were grown from seed for a period of 30 days in an enclosure in which the soil water and atmospheric vapour contained equilibrium concentrations of tritiated water. At the end of the experiment the plant water of the maize and the barley contained 95 and 84%, respectively, of the environmental concentration of tritium. The tritium-to-hydrogen ratio in plant dry matter was 60% for maize and 45% for barley of the environmental tritium-to-hydrogen ratio. The results show a significant isotope effect which reduces the tritium content of food grown in a continuously contaminated environment.