

RESIDUES OF PYRROLIZIDINE ALKALOIDS IN GOATS MILK

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Plants containing pyrrolizidine alkaloids (PA's), such as tansy ragwort, have been causing serious cases of livestock poisoning. Several research projects are currently studying the toxic properties of PA's and this has generated a need for reliable methods to measure the amounts of PA's in various biological matrices. In this case, the carcinogenic properties of milk from goats fed tansy ragwort are being studied, therefore the concentration of PA's in milk needs to be determined.

Milk samples were hydrolyzed with base to convert the PA's to retronecine. The filtered hydrolysates were cleaned up by liquid chromatography, derivatized and analyzed by electron capture gas chromatography. Residues in samples analyzed so far have ranged from 0.3 to 0.7 ppm, with recoveries from fortified samples averaging 80%. The detection limit of the method is about 0.1 ppm; reliable quantitation is limited to about the 0.2 ppm level.