

US EPA ARCHIVE DOCUMENT

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

PP# 5F1606. Method trial for CGA-24705 and/or metabolites
SUBJECT: CGA-37913 and CGA-49751 in corn and beef liver.

DATE: 28 JUL 1976

FROM: Randall R. Watts, Chemist
Chemistry Branch, RD

TO: Joseph Cummings, Chief
Chemistry Branch, RD

THRU: Robert W. Storherr, Section Leader
Chemistry Branch, RD

Method AG-286 was found to be acceptable for CGA-37913 and CGA-49751 on corn grain. The same method as applied to parent compound CGA-24705 analysis by conversion to CGA-37913 was also found to be acceptable since recoveries obtained were similar to those claimed by the petitioner.

Beef liver method:

Acceptable recoveries of CGA-37913 were obtained. Recoveries of CGA-49751 were rather low but not greatly different than some recoveries reported by petitioner.

Corn grain was fortified with CGA-37913 and CGA-49751 each at 0.1 ppm and 0.2 ppm. Blanks and recoveries were run in duplicate. The method which was recommended by Ciba-Geigy Corp. for this study was AG-286 "Analytical Method For The Determination of Residues of CGA-24705 Soybean metabolites as CGA-37913 and CGA-49751 By Acid Hydrolysis".

In a separate tryout, corn grain was fortified with 0.1 ppm CGA-24705 and the percent recovery as CGA-37913 was determined. Petitioner expected the hydrolysis procedure to produce CGA-37913 in ca. 50% yield.

In a separate tryout, beef liver was fortified at 0.085 ppm CGA-37913 and 0.080 ppm CGA-49751. Blanks and recoveries were run in duplicate by method entitled "CGA-24705 Determination of Total Residues In Material of Animal Origin". Compound CGA-37913 was determined by the Hall nitrogen detector instead of by mass fragmentography.

sults:

<u>Sample</u>	<u>Fortification Level (PPM)</u>	<u>Standard Compound</u>	<u>PPM Recovered</u>	<u>PPM Recovered corrected for blank</u>	<u>% Recovery</u>
corn grain	0.0 (Blank 1)	CGA-37913	0.01		94
"	0.0 (Blank 2)	"	0.01		88
"	0.0 (Blank 1)	CGA-49751	0.03		90
"	0.0 (Blank 2)	"	0.01		90
"	0.10	CGA-37913	0.104	0.094	89
"	0.10	"	0.098	0.088	70 ¹
"	0.10	CGA-49751	0.11	0.09	70
"	0.10	"	0.11	0.09	70
"	0.20	CGA-37913	0.188	0.178	49 ²
"	0.20	"	0.15	0.14	38 ²
"	0.20	CGA-49751	0.16	0.14	
"	0.20	"	0.16	0.14	
"	0.10	CGA-24705	0.043	0.033	
"	0.10	"	0.036	0.026	
liver	0.0 (Blank 1)	CGA-37913	0.017		
"	0.0 (Blank 2)	"	N.D. 3		
"	0.0 (Blank 1)	CGA-49751	N.D. 3		
"	0.0 (Blank 2)	"	N.D. 3		
"	0.085	CGA-37913	0.084	0.084 ⁴	99
"	0.085	"	0.085	0.085 ⁴	100
"	0.080	CGA-49751	0.034	0.034	43
"	0.080	"	0.036	0.036	45

1 Sample partially lost during analysis

2 Fortified with CGA-24705. Method converts residue to CGA-37913 and molecular conversion factor = 1.47
 0.1 ppm CGA-24705-----> 0.1 x $\frac{1}{1.47}$ = 0.068 ppm theoretical maximum CGA-37913. 0.033/.068=49%, 0.026/
 0.068=38%

3 N.D.= None detected

4 0.017 ppm Blank assumed to be an artifact since duplicate sample gave no blank correction. Blank was therefore not subtracted from recovery

Randall R. Watts

Randall R. Watts