

US EPA ARCHIVE DOCUMENT



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

AUG 9 1991

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OFFICE OF
PESTICIDES AND TOXIC
SUBSTANCES

MEMORANDUM

SUBJECT: PP#8F3658. Triasulfuron on Wheat and Barley.
Correction of Memo of 8/13/91 of estimates for residue
levels of metabolite CGA 150829.
MRID None.
HED No. None
DEB No. None

FROM: Martha J. Bradley, Chemist *M. J. Bradley*
Chemistry Branch I - Tolerance Support
Health Effects Division (H7509C)

TO: Robert Taylor, PM 25
Herbicide-Fungicide Branch
Registration Division (H7505C)

and
Toxicology Branch
Fungicide Herbicide Support
Health Effects Division (H7509C)

THRU: Richard D. Schmitt, Ph.D., Chief *Richard D. Schmitt*
Chemistry Branch I - Tolerance Support
Health Effects Division (H7509C)

Toxicology Branch has requested further information on the levels of CGA 150829 metabolite, 2-amino-4-methoxy-6-methyl-s-triazine, and of triasulfuron.

Proposed tolerances for triasulfuron are for parent only on:

grain of barley and wheat	0.02 ppm
forage of barley and wheat	5.0 ppm
straw of barley and wheat	2.0 ppm
kidney	0.2 ppm
meat, meat byproducts	0.1 ppm
milk	0.02 ppm

From radiolabeled studies in wheat, total residues in wheat straw were 11-16 % parent, and 14 - 16% CGA 150829. Actual residues of parent compound in grain were 0.011 ppm. Residues of the CGA 150829 metabolite in grain, forage and straw would be

approximately the same as the parent compound.

A radiolabeled study in the goat showed that in kidney, the parent compound was 33% and the CGA 150829 metabolite was 7% of the total residue while in milk, the parent was 15% of the residue and the metabolite, CGA 150829 was 22% of the total residue. A dairy cattle diet could contain 70% forage 20% grain and 10% straw.

From the proposed use:

70% forage times 5 ppm parent plus 5 ppm metabolite = 7 ppm
 20% grain times 0.01ppm parent plus 0.01 ppm metab = 0.004 ppm
 10% straw times 2 ppm parent plus 2 ppm metabolite = 0.4 ppm

Total residue in the diet = 7.4 ppm

Extrapolating from the feeding studies at 15, 75 and 150 ppm, parent residues in the kidney = 0.089 ppm, in the liver = 0.006 ppm and in milk = 0.005 ppm. From the percent of parent and CGA 150829 in the kidney and milk in the goat metabolism study, the metabolite in the meat and milk are calculated: in kidney, 0.02 ppm, in liver, 0.001 ppm and in milk 0.007 ppm.

Total residues of triasulfuron and CGA 150829 are:

	ppm Parent	ppm CGA 150829	ppm TOTAL
grain of barley and wheat	0.01	0.01	0.02
forage of barley and wheat	5.0	5.0	10
straw of barley and wheat	2.0	2.0	4.0
kidney	0.089	0.02	0.11
meat, meat byproducts	0.006	0.001	0.007
milk	0.005	0.007	0.012

The two sulfonylurea herbicides noted below may also produce the metabolite 2-amino-4-methoxy-6-methyl-s-triazine. The triazine metabolite is not a regulated residue with those herbicides. The herbicide, Harmony, also produces the same metabolite. Other sulfonylurea herbicides degrade into similar triazine metabolites.

Chlorsulfuron (Glean) 180.405 regulates the parent and 4-OH metabolite in oats, barley and wheat. Tolerances are 20 ppm in forage, 0.5 ppm in straw, 0.1 ppm in grain, 0.3 ppm in meat and meat byproducts and 0.1 ppm in milk.

Only the phenyl group of chlorsulfuron was radiolabeled. The triazine moiety was not followed in any of the metabolism studies in wheat, barley and goats. Thus we are unable to estimate the potential levels of CGA 150829 from the use of

chlorsulfuron.

Metsulfuron methyl (Ally) 180.428 regulates the parent and 4-OH metabolite in the crops barley, wheat and grass and the parent in meat and milk. Tolerances are 20 ppm in hay, 5 ppm in forage, 0.1 ppm in straw, 0.05 ppm in grain and 15 ppm in grass, forage fodder and hay. Meat and milk tolerances are 0.5 ppm in kidney, 0.1 ppm in meat and meat byproducts, and 0.05 ppm in milk.

Only one metabolism study was conducted in wheat using the triazine radiolabel. The maximum residue of the metabolite CGA 150829 was 9% of the residue at harvest and the parent was 44% of the residue at harvest. The remaining metabolism studies, were conducted using the phenyl radiolabel and would not have followed the triazine ring.

cc: PP8F3658, M. Bradley, RF, Circulate, PIB/FPB (Furlow)
H7509C:CBTS:M Bradley:CM#2:Rm810:557-7324:08/13/91
RDI:RSQuick:08/13/91



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Chemistry Branch I - Tolerance Support
Health Effects Division (H7509C)

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 50% grain times 0.01ppm parent plus 0.01 ppm metab = 0.01 ppm
 10% straw times 2 ppm parent plus 2 ppm metabolite = 0.4 ppm

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Total residues of triasulfuron and CGA 150829 are:

	ppm Parent	ppm CGA 150829	ppm TOTAL
grain of barley and wheat	0.02	0.02	0.04
forage of barley and wheat	5.0	5.0	10
straw of barley and wheat	2.0	2.0	4.0
kidney	0.089	0.02	0.11
meat, meat byproducts	0.006	0.001	0.007
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