

Historical Review of U.S. Crop Group Regulations

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“Old Crop Groups”

- Original 14 crop groups -
citrus, cucurbits, forage grass,
forage legumes, fruiting vegetables,
grain crops, leafy vegetables, nuts,
pome fruits, poultry, root crops,
seed and pod vegetables, small fruits
and stone fruit

“Old Crop Groups”

- Resemble modern crop groups, except:
 - “Old leafy vegetable group” included Brassica and non-Brassica leafy vegetables
 - Onion and garlic were in “old root crops group”
 - “Old seed and pod vegetable group” resembles current legume vegetable group

“Old Crop Groups”

- Poultry group included chickens, ducks, geese, guinea, pigeons, quail, and turkey
- No representative crops
- No guidance in the regulation for residues data requirements

Crop Groups for Negligible Residues

- Crop groups were modified in April 1967
 - Three additional crop groups added
 - Provided for the establishment of tolerances for negligible residues on a crop group basis
 - No designated representative crops
 - No guidance in the regulations for residue data requirements

Food and Feed Crops of the U.S.

1st edition published in 1971

J.R. Magness, G.M. Markle, C.C. Compton

First attempt to classify commercial food and feed crops grown in the U.S. based on a crop grouping scheme

Duggan Report

- In October 1972, EPA initiated a project under contract with Duggan and Associates
 - To develop a system to classify foods into groups
 - To explore the possibility of expanding the crop groupings

Duggan Report

- May 1973, Mr. Duggan submitted a report to EPA entitled “Study to Develop Food Classes for Pesticide Residue Group Tolerances”
- Proposed to classify 450 food and feed crops and food of animal origin into 10 major classes containing 34 groups

Duggan Report

- The 19 crop groups used by EPA can be traced back to Duggan's classification
- Many differences between the two schemes
- Stem vegetables
 - EPA moved celery, fennel and rhubarb to the leafy vegetable group, but did not group artichoke, asparagus and bamboo shoots

Duggan Report

- Bush and Vine Vegetables (edible and inedible peel)
 - EPA reshuffled most of the commodities in these two groups to form the fruiting vegetable and cucurbit vegetable groups

Duggan Report

- Groups proposed by Mr. Duggan but not included in EPA's crop groupings
 - Tropical fruit groups (edible and inedible peel)
 - Oilseed crop group
 - Beverage crop groups
 - Milk and dairy products group
 - Variety of groups for foods of animal origin

Duggan Report

- Primary Commodities
 - Selected for each group based on dietary and economic importance
 - Residue data required for all primary crops and for certain groups, optional selection by petitioner to develop residue data for one or more secondary crops

Science Advisory Board (SAB)

- In 1975, EPA requested advice from SAB on crop group issue.
- SAB agreed that concept of crop grouping has merit.

Science Advisory Board

- SAB recommended that crops be grouped on basis of similar features such as: surface to weight ratio, plant metabolism, cultural practices, climate and geography.
- Pesticide use should be substantially similar for all crops in the grouping

Science Advisory Board

- SAB envisioned the use of formulas to extrapolate from observed pesticide residue on the representative crops to estimated residue on crop group members.

Task Group for Pesticide Tolerance Grouping

- Report of the Task Group for Pesticide Tolerance Grouping, submitted to EPA in October 1978, endorsed the concept of crop grouping.
- Task group was formed to study the minor use problem and to recommend solutions to the tolerance limitations affecting minor uses.

Task Group for Pesticide Tolerance Grouping

- The Task group concluded that expanding the crop group approach would permit more expeditious registration for minor crops.

1983 Crop Group Regulations

- May 1982, EPA published a rule proposing to amend the crop grouping regulations
- Purpose of the amendments was to allow for regulatory relief for minor crops.
- Final rule published June 29, 1983

1983 Crop Group Regulations

- Crop groups – 19
- Total commodities – 500
- Representative commodities

1983 Crop Group Regulations

- Enabled the establishment of tolerances for a group of crops based on designated representative crops
- Representative crops ranged from 2 to 6 crops based on diversity of the group

1983 Crop Group Regulations

- Crop grouping concept based on an estimate of the maximum level of residue that could occur on any crop within the group
- Minimum data set consists of the residue data on all representative commodities for a group
- Crop group tolerance applies to all commodities in group, unless a commodity is excluded

Problems with 1983 Crop Groups

- Companies frequently did not have sufficient economic incentive to develop residue data for all representative crops.
- Secondary residue data (livestock feeding studies and processing studies) greatly increased the cost of data development
- Use patterns or actual residue levels were sometimes too variable

1995 Crop Group Revisions

- Creation of subgroups
 - Established for 8 of the 19 crop groups
 - Subsets of commodities of the associated “parent” crop group
 - Ranged from 1 to 3 commodities (generally 2 commodities)
 - Subgroups incorporate about two-thirds of all food crops covered by crop groups

1995 Crop Group Revisions

- Subgroups created that include and exclude major processed commodities
- Root vegetable subgroup and root vegetable (except sugar beet) subgroup are identical except sugar beets are missing from the latter.
- Petitioner has option to develop residue data for root vegetable subgroup tolerance without generating expensive processing and feeding studies.

1995 Crop Group Revisions

- EPA revised the representative commodities for six parent groups by deleting certain representative commodities or providing alternative representative commodities.
 - English walnuts dropped as a representative crop from tree nut group
 - Broccoli or cauliflower acceptable for Brassica leafy vegetables

1995 Crop Group Revisions

- Small fruits and berry group
 - Cranberry, grape and strawberry dropped from group
 - Group renamed as berry group
 - Blackberry or raspberry and blueberry representative crops

1995 Crop Group Revisions

- Additions to the crop groups and subgroups
- New crops were added, but no significant change in the crop group members
- No new crop groups added
 - Proposal were under consideration for tropical fruits and oilseed crops

Lessons Learned

- Crop grouping can be an effective means of promoting residue data development in support of tolerances and registration for minor uses.
- Representative crops should be based on the likelihood of a crop having the highest residue of any crop in the group and the most economically important crops in the group.

Lessons Learned

- Crop groups must provide registrants economic incentive to develop residue data in support of tolerances/registration.
- The most cost effective scheme would be to include new crops into the existing 19 crop group, when practical.
- The addition of new crops should not trigger a requirement for additional representative crops.

Lessons Learned

- The diversity of new groups should be limited to reduce the number of representative crops, or subgroups should be developed for the “parent group”.
- Subgroups that include and exclude processed commodities should be developed.