

Classification of commodities	Portion of commodity to which the Codex MRL applies (and which is analysed)
Bulb vegetables are pungent, flavourful foods derived from the fleshy scale bulbs or growth buds of alliums of the lily family (<i>Liliaceae</i>). The entire bulb may be consumed following removal of the parchment-like skin	Remove adhering soil (e.g. by rinsing in running water or by gentle brushing of the dry commodity)
<u>Bulb vegetables</u> garlic, leeks, onions, spring onions	Bulb, dry onions and garlic Whole commodity after removal of roots and whatever parchment skin is easily detached Leeks and spring onions Whole vegetable after removal of roots and adhering soil
Group 3 - LEAFY VEGETABLES (EXCEPT BRASSICA VEGETABLES) (Does not correspond to Codex Classification Group 013 Leafy vegetables (including Brassica leafy vegetables))	
Leafy vegetables (except Group 4 vegetables) are foods derived from the leaves of a wide variety of edible plants including leafy parts of Group 1 vegetables. The entire leaf may be consumed. Leafy vegetables of the brassica family are grouped separately	
<u>Leafy vegetables</u> beet leaves, corn salad, endive, lettuce, radish leaves, spinach, sugar beet leaves, Swiss chard	Whole commodity after removal of obviously decomposed or withered leaves
Group 4 - BRASSICA (COLE) LEAFY VEGETABLES (Does not correspond to Codex Classification Group 010 Brassica vegetables)	
Brassica (cole) leafy vegetables are foods derived from the leafy parts, stems and immature inflorescences of plants commonly known and botanically classified as brassicas and also known as cole vegetables. The entire vegetable may be consumed	
<u>Brassica leafy vegetables</u> broccoli, Brussels sprouts, cabbage, Chinese cabbage, red cabbage, Savoy cabbage, cauliflower, collards, kales, kohlrabi, mustard greens	Whole commodity after removal of obviously decomposed or withered leaves. For cauliflower and headed broccoli analyse flower head and stems, discarding leaves, for Brussels sprouts analyse "buttons" only
Group 5 - STEM VEGETABLES (Codex Classification Group 017 Stalk and stem vegetables)	
Stem vegetables are foods derived from the edible stems or shoots of a variety of plants	

Classification of commodities	Portion of commodity to which the Codex MRL applies (and which is analysed)
<u>Stem vegetables</u> artichoke, celery, chicory (witloof), rhubarb	Whole commodity after removal of obviously decomposed or withered leaves Rhubarb and asparagus stems only Celery and asparagus remove adhering soil (e.g. by rinsing in running water or by gentle brushing of the dry commodity)
Group 6 - LEGUME VEGETABLES (Codex Classification Group 014 Legume vegetables Group 015 Pulses)	
Legume vegetables are derived from the dried or succulent seeds and immature pods or leguminous plants commonly known as beans and peas Succulent forms may be consumed as whole pods or as the shelled product Legume fodder is in Group 18	
<u>Legume vegetables</u> beans, broad beans, cow peas, dwarf beans, French beans, green beans, kidney beans, Lima beans, navy beans, runner beans, snapbeans, soybeans, peas, sugar peas	Whole commodity
Group 7 - FRUITING VEGETABLES - EDIBLE PEEL (Combination of Codex Classification Groups 011 Fruiting vegetables, Cucurbits, 012 Fruiting vegetables other than Cucurbits)	
Fruiting vegetables - edible peel are derived from the immature or mature fruits of various plants, usually annual vines or bushes The entire fruiting vegetables may be consumed	
<u>Fruiting vegetables - edible peel</u> cucumber, egg plant, gherkin, okra, pepper, summer squash, tomato, mushroom ²³	Whole commodity after removal of stems
Group 8 - FRUITING VEGETABLES - INEDIBLE PEEL (Codex Classification Group 011 Fruiting vegetables, Cucurbits)	
Fruiting vegetables inedible peel are derived from the immature or mature fruits of various plants, usually annual vines or bushes Edible portion is protected by skin, peel or husk which is removed or discarded before consumption	
<u>Fruiting vegetables - inedible peel</u> cantaloupe, melon, pumpkin, squash, watermelon, winter squash	Whole commodity after removal of stems

²³ Mushroom is not included in the commodities listed in the original document

Classification of commodities	Portion of commodity to which the Codex MRL applies (and which is analysed)
Group 9 - CITRUS FRUITS (Codex Classification Group 001 Citrus fruits)	
Citrus fruits are produced by trees of the <i>Rutaceae</i> family and are characterized by aromatic oily peel, globular form and interior segments of juice-filled vesicles. The fruit is fully exposed to pesticides during the growing season. The fruit pulp may be consumed in succulent form and as a beverage. The entire fruit may be used for preserving.	
<u>Citrus fruits</u>	Whole commodity
Group 10 - POME FRUITS (Codex Classification Group 002 Pome fruits)	
Pome fruits are produced by trees related to the genus <i>Pyrus</i> of the rose family (<i>Rosaceae</i>). They are characterized by fleshy tissue surrounding a core consisting of parchment-like carpels enclosing the seed. The entire fruit, except the core, may be consumed in the succulent form or after processing.	
<u>Pome fruits</u> apple, pear, quince	Whole commodity after removal of stems
Group 11 - STONE FRUITS (Codex Classification Group 003 Stone fruits)	
Stone fruits are produced by trees related to the genus <i>Prunus</i> of the rose family (<i>Rosaceae</i>) characterized by fleshy tissue surrounding a single hard-shelled seed. The entire fruit, except seed, may be consumed in a succulent or processed form.	
<u>Stone fruits</u> apricots, cherries, sour cherries, sweet cherries, nectarines, peaches, plums	Whole commodity after removal of stems and stones but the residue calculated and expressed on the whole commodity without stem
Group 12 - SMALL FRUITS AND BERRIES (Codex Classification Group 004 Berries and other small fruits)	
Small fruits and berries are derived from a variety of plants whose fruit is characterized by a high surface-weight ratio. The entire fruit, often including seed, may be consumed in a succulent or processed form.	
<u>Small fruits and berries</u> blackberries, blueberries, boysenberries, cranberries, currants, dewberries, gooseberries, grapes, loganberries, raspberries, strawberries	Whole commodity after removal of caps and stems. Currants fruit with stems

Classification of commodities	Portion of commodity to which the Codex MRL applies (and which is analysed)
Group 13 - ASSORTED FRUITS - EDIBLE PEEL (Codex Classification Group 005 Assorted tropical and sub-tropical fruit - edible peel)	
Assorted fruits - edible peel are derived from the immature or mature fruits of a variety of plants, usually shrubs or trees from tropical or subtropical regions The whole fruit may be consumed in a succulent or processed form	
<u>Assorted fruits - edible peel</u> dates, figs, olives	Dates and olives whole commodity after removal of stems and stones but residue calculated and expressed on the whole fruit Figs Whole commodity
Group 14 - ASSORTED FRUITS - INEDIBLE PEEL (Codex Classification Group 006 Assorted tropical and sub-tropical fruit - inedible peel)	
Assorted fruits - inedible peel are derived from the immature or mature fruits of different kinds of plants, usually shrubs or trees from tropical or subtropical regions Edible portion is protected by skin, peel or husk Fruit may be consumed in a fresh or processed form	
<u>Assorted fruits - inedible peel</u> avocados, bananas, guavas, kiwi fruit, mangoes, papayas, passion fruits, pineapples	Whole commodity unless qualified Pineapples after removal of crown Avocado and mangoes whole commodity after removal of stone but calculated on whole fruit Bananas after removal of crown tissue and stalks
Group 15 - CEREAL GRAINS (Codex Classification Group 020 Cereal grains)	
Cereal grains are derived from the clusters of starchy seeds produced by a variety of plants primarily of the grass family (<i>Gramineae</i>) Husks are removed before consumption	
<u>Cereal grains</u> barley, maize, oats, rice, rye, sorghum, sweet corn, wheat	Whole commodity Fresh corn and sweet corn kernels plus cob without husk
Group 16 - STALK AND STEM CROPS (Codex Classification Group 051 Straw, fodder and forage of cereal grains and grasses)	
Stalk and stem crops are various kinds of plants, mostly of the grass family (<i>Gramineae</i>) cultivated extensively as animal feed and for the production of sugar Stems and stalks used for animal feeds are consumed as succulent forage, silage, or as dried fodder or hay Sugar crops are processed	

Classification of commodities	Portion of commodity to which the Codex MRL applies (and which is analysed)
<u>Stalk and stem crops</u> barley fodder and straw, grass fodders, maize fodder, sorghum fodder	Whole commodity
Group 17 - LEGUME OILSEEDS (Part of Codex Classification Group 023 Nuts and seeds)	
Legume oilseeds are mature seeds from legumes cultivated for processing into edible vegetable oil or for direct use as human food	
<u>Legume oilseeds</u> peanuts	Whole kernel after removal of shell
Group 18 - LEGUME ANIMAL FEEDS (Codex Classification Group 050 Legume animal feeds)	
Legume animal feeds are various species of legumes used for animal forage, grazing, fodder, hay or silage with or without seed Legume animal feeds are consumed as succulent forage or as dried fodder or hay	
<u>Legume animal feeds</u> alfalfa fodder, bean fodder, clover fodder, peanut fodder, pea fodder, soybean fodder	Whole commodity
Group 19 - TREE NUTS (Codex Classification Group 022 Tree nuts)	
Tree nuts are the seeds of a variety of trees and shrubs which are characterized by a hard, inedible shell enclosing an oil seed The edible portion of the nut is consumed in succulent, dried or processed form	
<u>Tree nuts</u> almonds, chestnuts, filberts, macadamia nuts, pecans, walnuts	Whole commodity after removal of shell Chestnuts whole in skin
Group 20 - OILSEED (Codex Classification Group 23 Nuts and seeds)	
Oilseed consists of the seed from a variety of plants used in the production of edible vegetable oils Some important vegetable oilseeds are by-products of fibre or fruit crops	
<u>Oilseed</u> cotton seed, linseed, rapeseed, safflower seed, sunflower seed	Whole commodity
Group 21 - TROPICAL SEEDS (Codex Classification Group 024 Seed for beverages and sweets)	

Classification of commodities	Portion of commodity to which the Codex MRL applies (and which is analysed)
Tropical seeds consist of the seeds from several tropical and semitropical trees and shrubs mostly used in the production of beverages and confections Tropical seeds are consumed after processing	
<u>Tropical seeds</u> cacao beans, coffee beans	Whole commodity
Group 22 - HERBS (Codex Classification Group 027 Herbs)	
Herbs consist of leaves, stems and roots from a variety of herbaceous plants used in relatively small amounts to flavour other foods They are consumed in succulent or dried form as components of other foods	
<u>Herbs</u>	Whole commodity
Group 23 - SPICES (Codex Classification Group 028 Spices)	
Spices consist of aromatic seeds, roots, fruits and berries from a variety of plants used in relatively small amounts to flavour other foods They are consumed primarily in the dried form as components of other foods	
<u>Spices</u>	Whole commodity
Group 24 - TEAS (Codex Classification Group 066 Teas)	
Teas are derived from the leaves of several plants, but principally <i>Camellia sinensis</i> They are used in the preparation of infusions for consumption as stimulating beverages They are consumed as extracts of the dried or processed product	
<u>Teas</u>	Whole commodity
Group 25 - MEATS (Codex Classification Group 030 Meat)	
Meats are the muscular tissue, including adhering fatty tissue, from animal carcasses prepared for wholesale distribution The entire product may be consumed	
<u>Meats</u> carcass meat (and carcass fat), carcass meat of cattle, carcass meat of goats, carcass meat of horses, carcass meat of pigs, carcass meat of sheep	Whole commodity (For fat soluble pesticides a portion of carcass fat is analysed and MRLs apply to carcass fat)

Classification of commodities	Portion of commodity to which the Codex MRL applies (and which is analysed)
Group 26 - ANIMAL FATS (Codex Classification Group 031 Mammalian fats)	
Animal fats are the rendered or extracted fat from the fatty tissue of animals. The entire product may be consumed.	
<u>Animal fats</u> cattle fat, pig fat, sheep fat	Whole commodity
Group 27 - MEAT BYPRODUCTS (Codex Classification Group 0032 Edible offal (mammalian))	
Meat byproducts are edible tissues and organs, other than meat and animal fat, from slaughtered animals as prepared for wholesale distribution. Examples: liver, kidney, tongue, heart. The entire product may be consumed.	
<u>Meat byproducts (such as liver, kidney, etc.)</u> cattle meat byproducts, goat meat byproducts, pig meat byproducts, sheep meat byproducts	Whole commodity
Group 28 - MILKS (Codex Classification Group 033 Milks)	
Milks are the mammary secretions of various species of lactating herbivorous ruminant animals, usually domesticated. The entire product may be consumed.	
<u>Milks</u>	Whole commodity. For fat-soluble compounds a portion of the fat is analysed but the residue is expressed on a whole commodity basis on the assumption that milk contains 4% fat.
Group 29 - MILK FATS (Codex Classification Group 086 Milk fats)	
Milk fats are the fats rendered or extracted from milk.	
<u>Milk fats</u>	Whole commodity
Group 30 - POULTRY MEATS (Codex Classification Group 036 Poultry meat)	
Poultry meats are the muscular tissues, including adhering fat and skin, from poultry carcasses as prepared for wholesale distribution. The entire product may be consumed.	

Classification of commodities	Portion of commodity to which the Codex MRL applies (and which is analysed)
<u>Poultry Meats</u>	Whole commodity (For fat soluble pesticides a portion of carcass fat is analysed and MRLs apply to carcass fat)
Group 31 - POULTRY FATS (Codex Classification Group 037 Poultry fat)	
Poultry fats are the rendered or extracted fats from fatty tissues of poultry The entire product may be consumed	
<u>Poultry fats</u>	Whole commodity
Group 32 - POULTRY BYPRODUCTS (Codex Classification Group 038 Poultry, edible offal of)	
Poultry byproducts are edible tissue and organs, other than poultry meat and poultry fat, from slaughtered poultry	
<u>Poultry byproducts</u>	Whole commodity
Group 33 - EGGS (Codex Classification Group 039 Eggs)	
Eggs are the fresh edible portion of the reproductive body of several avian species The edible portion includes egg white and egg yolk after removal of the shell	
<u>Eggs</u>	Whole egg whites and yolks combined after removal of shells

Appendix VII

STANDARDIZED FORMAT FOR ORGANIZING THE DATA DIRECTORY (INDEX) OF INFORMATION TO BE SUBMITTED FOR EVALUATION

The purpose of the data directory is to assist the reader (reviewer) to find the studies related to the standard headings of a residue evaluation, or to be quite certain that no studies are available for particular sections. Initially the data directory will also assist the FAO Secretary to decide on the size of the review and how much work is required. See also Chapter 4, “Preparation of data submissions for the consideration of the FAO Panel of the JMPR.”

The relevant sections required for the data directory are provided below and examples of subheadings are included. OECD data point numbers indicate the studies classified in the OECD Guidance Documents for Pesticide Registration²⁴

In each section the references should be in systematic order. The year is the year of publication of the study, project or experiment in the residue evaluations. The study, project or experiment number should correspond with the company name, i.e. if the study number quoted is that of the contracted laboratory, the contracted laboratory's name should be given in the reference. Where a laboratory name and study number and a company name and study number are provided, both sets of information may be included. Where a study consists of a number of individual trials, include all trial numbers in the reference. Refer to the following examples.

Boner, P. L. 1998. Metabolism of [¹⁴C] methyl parathion in lettuce. Xenobiotic Laboratories, Inc., Project XBL97072, PSI 97 438. Unpublished.

van Zyl, P. 1997. Determination of the magnitude of residues of pyriproxyfen in citrus. South-Africa, 1996 trials. Study 96/194. Report 311/88176/N194. South African Bureau of Standards. Report NNR-0048. Sumitomo, Japan. Unpublished.

Cañez, V. M. 1989. The magnitude of methyl parathion residues on sunflower. Huntingdon Analytical Services, Project PAL-MP-SS, includes MP-SS-7128, MP-SS-7129. Unpublished.

If a section has no study, include the heading and the statement “No study submitted”

The data directory should include the volume numbers in the dossier showing where each study is located. For very large dossiers (5 boxes or more), a summary of the allocations of volumes to boxes should also be provided. In situations where the volume number is not known at the time the directory is first submitted, an amended directory (including the volume number) should be included with the final data submission.

Provide an electronic copy of the data directory in Word format.

²⁴ OECD 2001. Dossier Guidance – OECD guidance for industry data submissions on plant protection products and their active substances. <http://www1.oecd.org/ehs/PestGD03.htm>

DATA DIRECTORY FORMAT

1 BACKGROUND INFORMATION

Identity

(OECD data point numbers IIA 2 1, 2 2, 2 3, 2 4, 2 6, 2 7, 2 7, 2 9)

Physical and chemical properties

Vapour pressure

Relevant study references Volume in data dossier

Octanol-water partition coefficient

Relevant study references Volume in data dossier

etc

2 METABOLISM AND ENVIRONMENTAL FATE

Proposed subdivisions are indicated under those headings where generally a number of reports for a range of commodities are provided Rotational crop studies should appear under environmental fate in soil

Animal metabolism

(OECD data point numbers IIA 6 2 2, 6 2 3,)

Subdivided according to laboratory animal, livestock, poultry

Relevant study references Volume in data dossier

Plant metabolism

(OECD data point number IIA 6 2 1)

Subdivided, where necessary, according to crop

Relevant study references Volume in data dossier

Environmental fate in soil

(OECD data point numbers IIA 6 6, 7 1, 7 2 1, 7 2 4, 7 3 1, 7 4 1, 7 4 2, 7 4 3, 7 4 4, 7 4 5)

Relevant study references Volume in data dossier

Environmental fate in water-sediment systems

(OECD data point numbers IIA 7 5, 7 6, 7 8 3)

Relevant study references Volume in data dossier

3 RESIDUE ANALYSIS

Analytical methods

- Methods used in the supervised trials and processing studies
- Enforcement methods (OECD data point number IIA 4 3)
- Specialized methods
- Subheadings by substrate (e g commodity, soil etc) may be of use

Relevant study references Volume in data dossier

Stability of residues in stored analytical samples

(OECD data point number IIA 6 1)

- Subdivided, where necessary, according to commodity
- Relevant study references Volume in data dossier

4 USE PATTERNS

List of crops for which Good Agricultural Practice (GAP) information is available, the relevant country(ies) (listed alphabetically), and whether labels will be available

List of labels

5 RESIDUES RESULTING FROM SUPERVISED TRIALS ON CROPS

(OECD data point number IIA 6 3)

Subheadings by commodity organized according to the Codex Classification

Citrus fruits

- lemons
- oranges
- tangelos

Relevant study references Volume in data dossier

Pome fruits

- apples
- pears

Relevant study references Volume in data dossier

Stone fruits

Relevant study references Volume in data dossier

etc

Relevant study references Volume in data dossier etc

6 FATE OF RESIDUES IN STORAGE AND PROCESSING

In storage

- Subdivided, where necessary, according to commodity
Relevant study references Volume in data dossier

In processing

(OECD data point number IIA 6 5)

- Subdivided, where necessary, according to commodity
Relevant study references Volume in data dossier

7 RESIDUES IN ANIMAL COMMODITIES

- Farm animal feeding studies
(OECD data point number IIA 6 4)
Relevant study references Volume in data dossier
- Direct animal treatments
Relevant study references Volume in data dossier

8 RESIDUES IN FOOD IN COMMERCE OR AT CONSUMPTION

Relevant study references Volume in data dossier

9 NATIONAL MAXIMUM RESIDUE LIMITS AND RESIDUE DEFINITIONS

A list of the countries for which this information is available should be included

State the source of the information and its date

Appendix VIII

PESTICIDE INFORMATION FOR CCPR WORKING GROUP ON PRIORITIES²⁵

for evaluation _____

for re-evaluation _____

- 1 NAME
- 2 STRUCTURAL FORMULA
- 3 CHEMICAL NAME
- 4 TRADE NAME
- 5 NAMES AND ADDRESSES OF BASIC PRODUCERS
- 6 JUSTIFICATION FOR USE
- 7 USES MAJOR
MINOR
- 8 COMMODITIES MOVING IN INTERNATIONAL TRADE AND LEVELS OF RESIDUES
- 9 COUNTRIES WHERE PESTICIDE IS REGISTERED
- 10 NATIONAL MAXIMUM RESIDUE LIMITS
- 11 COMMODITIES FOR WHICH THE NEED FOR ESTABLISHING CODEX MRLs ARE RECOGNIZED
- 12 MAJOR INTERNATIONAL USE PATTERN
- 13 LIST OF DATA (TOXICOLOGY, METABOLISM, RESIDUE) AVAILABLE
- 14 DATE DATA COULD BE SUBMITTED TO THE JMPR
- 15 PROPOSAL FOR INCLUSION SUBMITTED BY (COUNTRY)

²⁵ This information is to be provided by Codex member countries for inclusion of a pesticide in the Codex Priority List

Appendix IX

MAXIMUM PROPORTION OF AGRICULTURAL COMMODITIES IN ANIMAL FEED

Table IX 1 Raw agricultural commodities and feedstuffs derived from crops (US data)
Numbers in parentheses refer to explanatory notes at end of table

Crop	Raw agricultural commodities	Processed commodities	Feedstuff	Codex commodity group	% DM (3)	Percent of livestock diet (%) (1,2)			
						Beef cattle	Dairy cattle	Poultry	Swine
Alfalfa (4)	forage, hay, seed (5)		forage	AL	35	70	60	NU (6)	NU
			hay	AL	89	70	60	NU	NU
			meal (7)	AL	89	25	50	10	10
			silage (8)	AL	40	70	60	NU	NU
Almond	nutmeat, hulls		hulls	AM	90	10	10	NU	NU
Apple	fruit	wet pomace, juice	wet pomace	AB	40	40	20	NU	NU
Barley (9)	grain (10), hay, straw	pearled barley, flour, bran	grain (10)	GC	88	50	40	75	80
			hay	AS	88	25	60	NU	NU
			straw	AS	89	10	60	NU	NU
Beet, sugar	root, tops (leaves)	refined sugar (11), dried pulp, molasses	tops (leaves)	AV	23	20	10	NU	NU
			dried pulp,	AB	88	20	20	NU	NU
			molasses	DM	75	10	10	NU	NU
Canola	seed	meal, refined oil	meal	-	88	15	15	15	15
Carrot	root		culls (12)	VR	12	25	25	NU	10
Citrus	whole fruit	dried pulp, oil, juice	dried pulp	AB	91	20	20	NU	NU
Clover (13)	forage, hay		forage	AL	30	30	60	NU	NU
			hay	AL	89	30	60	NU	NU
			silage (14)	AL	30	30	60	NU	NU
Corn, field	grain, starch (18), forage, stover (16), grits, flour, aspirated grain fractions (17)	wet milling refined oil, dry milling meal, refined oil	grain	GC	88	80	40	80	80
			forage (15)	AF	40	40	50	NU	NU
			stover (16)	AS	83	25	15	NU	NU
			aspirated grain fractions (17)	CF	85	20	20	NU	20
			milled by –products (19)	CF	85	50	25	60	75
Corn, pop	grain, stover (16)		grain	GC	88	80	40	80	40
			stover (16)	AS	85	25	15	NU	NU

Crop	Raw agricultural commodities	Processed commodities	Feedstuff	Codex commodity group	% DM (3)	Percent of livestock diet (%) (1,2)			
						Beef cattle	Dairy cattle	Poultry	Swine
Corn, sweet (20)	sweet corn (K + CWHR) (21), stover (16), forage (22)		forage (22)	AF	48	40	50	NU	NU
			cannery waste (23)	-	30	35	20	NU	NU
			stover (16)	AS	83	25	15	NU	NU
Cotton	undelinted seed, cotton gin by-products (24)	meal, hulls, refined oil	undelinted seed	SO	88	25	25	NU	NU
			cotton gin byproducts (24)	AM	90	20	20	NU	NU
			meal	-	89	15	15	20	15
			hulls	AM	90	20	15	NU	NU
Cowpea (25)	seed, hay, forage		seed	AL	88	20	20	10	50
			hay	AL	86	40	40	NU	NU
			forage	AL	30	40	40	NU	15
Crownvetch (26)	forage, hay		forage	AL	30	20	60	NU	NU
			hay	AL	90	20	60	NU	NU
Flax	seed	meal	meal	-	88	10	10	30	10
Grass (pasture & rangeland) (27)	forage, hay		forage	AF	25	60	60	NU	NU
			hay	AS	88	60	60	NU	NU
			silage (28)	AS	40	60	60	NU	NU
Lespedeza (29)	forage, hay		forage	AL	22	20	60	NU	NU
			hay	AL	88	20	60	NU	NU
Lupin	seed		seed	VD	88	20	20	15	20
Millet (30)	grain (31), forage, hay, straw (32)	flour (33)	grain (31)	GC	88	50	40	70	75
			forage	AF	30	25	60	NU	NU
			hay	AS	85	25	60	NU	NU
			straw (32)	AS	90	10	10	NU	NU
Oats (34)	grain (10), forage, hay, straw	flour, groats and rolled oats	grain (10)	GC	89	50	40	80	80
			forage	AF	30	25	60	NU	NU
			hay	AS	90	25	60	NU	NU
			straw	AS	90	10	10	NU	NU
Pea, field (35)	seed, vines, hay		seed	VD	90	20	20	20	20
			vines	AL	25	25	50	NU	NU
			hay	AL	88	25	50	NU	NU
			silage (36)	AL	40	25	50	NU	NU
Peanut	nutmeat, hay (37)	meal, refined oil	meal hay (37) (R) (38)	- AL	85 85	15 25	15 50	25 NU	15 NU
Pineapple	fruit	process residue (39), juice	process residue (39)	AM	25	30	20	NU	NU
Potato	tuber	granules and flakes (40), chips, wet peel	culls processed potato waste (41)	VR AB	20 15	75 75	40 40	NU NU	50 NU
Rape	seed, forage	meal (42)	meal forage	- AM	88 30	15 30	15 30	15 NU	15 NU

Appendix IX – Maximum proportion of agricultural commodities in animal feed

Crop	Raw agricultural commodities	Processed commodities	Feedstuff	Codex commodity group	% DM (3)	Percent of livestock diet (%) (1,2)			
						Beef cattle	Dairy cattle	Poultry	Swine
Rice (43)	grain (10), straw	polished rice, hulls, bran	grain (10)	GC	88	40	40	60	65
			straw	AS	90	10	10	NU	NU
			hulls	CM	90	10	10	15	NU
			bran	CM	90	15	15	25	15
Rye (44)	grain (45), forage	flour, bran	grain (45)	GC	88	40	40	50	80
			forage	AF	30	25	60	NU	NU
Rye	straw		straw	AS	88	10	10	NU	NU
Safflower	seed	meal, refined oil	meal	-	91	10	10	25	25
Sorghum, grain	grain, forage (15), stover (16), aspirated grain fractions (17)	flour (46)	grain	GC	86	40	40	80	90
			forage (15)	AF	35	40	50	NU	NU
			stover (16)	AS	88	25	15	NU	NU
			aspirated grain fractions (17)	CF	85	20	20	NU	20
Soybean (47)	seed, forage, hay, aspirated grain fractions (17)	meal, hulls, refined oil	seed	VD	89	15	15	20	25
			forage (R) (38)	AL	35	30	30	NU	NU
			hay (R) (38)	AL	85	30	30	NU	NU
			aspirated grain fractions (17)	AL	85	20	20	NU	20
			meal	AL	92	15	15	40	25
			hulls	AL	90	20	20	20	NU
silage	AL	30	30	30	NU	NU			
Sugarcane (49)	cane	molasses (50), refined sugar (11)	molasses (50)	DM	75	10	10	NU	NU
Sunflower	seed	meal, refined oil	meal	-	92	15	15	30	20
Trefoil (51)	forage, hay		forage	AL	30	20	60	NU	10
			hay	AL	85	20	60	NU	NU
Turnip	root, tops (leaves)		root	VR	15	75	20	NU	40
			tops (leaves)	AV	30	50	30	NU	NU
Vetch (52)	forage, hay		forage	AL	30	20	60	NU	NU
			hay	AL	85	20	60	NU	NU
Wheat (53) (54)	grain (45), forage, hay, straw, aspirated grain fractions (17)	bran, flour, middlings, shorts, germ	grain (45)	GC	89	50	40	80	80
			forage	AF	25	25	60	NU	NU
			hay	AS	88	25	60	NU	NU
			straw	AS	88	10	10	NU	NU
			aspirated grain fractions (17)	CF	85	20	20	NU	NU
			milled by-products (55)	CF	88	40	50	50	50

EXPLANATORY NOTES

The following notes are referenced in the table

- (1) **Percent of livestock diet** For percentages of feedstuffs in livestock diets other than those listed here, contact the US EPA, Health Effects Division, OPP, 7509C, 1200 Pennsylvania Ave, NW, Washington, DC 20460, USA
- (2) **Percent of livestock diet** Maximum percent of diet on a dry-weight basis for finishing beef and lactating dairy cattle, and on an as-fed basis for poultry and finishing swine (hogs)
- (3) **% DM (percentage dry matter)** For beef and dairy feedstuffs, the percentage of moisture should be reported for representative samples of raw agricultural and processed commodities
- (4) **Alfalfa** Residue data are needed from a minimum of three cuttings, unless climatic conditions restrict the number of cuttings. Cut sample at late bud to early bloom stage (first cut), or at early (one-tenth) bloom stage (later cuts)
- (5) **Alfalfa seed** For registered uses on alfalfa grown for seed, residue data should be provided on seed, forage and hay, for all other uses data should only be provided on forage and hay
- (6) **NU** Not used or a minor feedstuff (less than 10 percent of livestock diet)
- (7) **Alfalfa meal** Residue data are not needed for meal, however, the meal should be included in the livestock diet, using the hay tolerance level. Hay should be field-dried to a moisture content of 10 to 20 percent
- (8) **Alfalfa silage** Residue data on silage are optional, but are desirable for assessment of dietary exposure. Cut at late bud to one-tenth bloom stage for alfalfa, allow to wilt to approximately 60 percent moisture, then chop fine, pack tight, and allow to ferment for three weeks maximum in an air-tight environment until it reaches pH 4. This applies both to silage and haylage. In the absence of silage data, residues in forage will be used for silage, with correction for dry matter
- (9) **Barley hay** Cut when the grain is in the milk to soft dough stage. Hay should be field-dried to a moisture content of 10 to 20 percent. Barley straw. Plant residue (dried stalks or stems with leaves) left after the grain has been harvested (threshed)
- (10) **Barley, grain, oat grain and rice grain.** Kernel (caryopsis) plus hull (lemma and palea)
- (11) **Beet, sugar.** Residue data may be applied for raw sugar or refined sugar, or both raw and refined. Sugarcane. Residue data may be supplied in the same manner
- (12) **Carrot culls.** Data for raw agricultural commodities will cover residue on culls
- (13) **Clover forage.** Cut sample at the 4-8 inch to pre-bloom stage, at approximately 30 percent DM. **Clover hay.** Cut at early to full bloom stage. Hay should be field-dried to a moisture content of 10 to 20 percent. Residue data for clover seeds are not needed
- (14) **Clover silage.** Residue data on silage are optional, but are desirable for assessment of dietary exposure. Cut sample at early to one-fourth bloom for clover, allow to wilt to

approximately 60 percent moisture, then chop fine, pack tight, and allow to ferment for 3 weeks maximum in an air-tight environment until it reaches pH 4. This applies to both silage and haylage. In the absence of silage data, residues in forage will be used for silage, with correction for dry matter.

(15) **Field corn forage.** Cut sample (whole aerial portion of the plant) at late dough/early dent stage (black ring/layer stage for corn only). **Sorghum forage.** Cut sample (whole aerial portion of the plant) at soft dough to hard dough stage. Forage samples should be analyzed as is, or may be analyzed after ensiling for 3 weeks maximum, and reaching pH 5 or less, with correction for dry matter.

(16) **Corn stover.** Mature dried stalks from which the grain or whole ear (cob + grain) have been removed, containing 80 to 85 percent DM. **Sorghum stover.** Mature dried stalks from which the grain has been removed, containing approximately 85 percent DM.

(17) **Aspirated grain fractions** (previously called **grain dust**). Dust collected at grain elevators for environmental and safety reasons. Residue data should be provided for any post-harvest use on corn, sorghum, soybeans or wheat. For a pre-harvest use after the reproduction stage begins and seed heads are formed, data are needed unless residues in the grain are less than the limit of quantitation of the analytical method. For a pre-harvest use during the vegetative stage (before the reproduction stage begins), data will not normally be needed unless the plant metabolism or processing study shows a concentration of residues of regulatory concern in an outer seed coat (e.g. wheat bran, soybean hulls).

(18) **Corn starch.** Residue data for starch will be used for corn syrup. Petitions may also provide data on syrup for a more accurate assessment of dietary exposure.

(19) **Corn milled byproducts.** Use residue data for corn dry-milled processed commodities having the highest residues, excluding oils.

(20) **Sweet corn.** Residue data on early sampled field corn should suffice to provide residue data on sweet corn, provided the residue data are generated at the milk stage on kernel plus cob with husk removed and there are adequate numbers of trials and geographical representation from the sweet corn growing regions.

(21) **Sweet corn (K + CWHR)** Kernels plus cob with husks removed.

(22) **Sweet corn forage.** Samples should be taken when sweet corn is normally harvested for fresh market, and may or may not include the ears. Petitioners may analyze the freshly cut samples, or may analyze the ensiled samples after ensiling for 3 weeks maximum, and reaching pH 5 or less, with correction for percent dry matter.

(23) **Sweet corn cannery waste.** Includes husks, leaves, cobs and kernels. Residue data for forage will be used for sweet corn cannery waste.

(24) **Cotton gin byproducts** (commonly called **gin trash**). Include the plant residues from ginning cotton, consisting of burrs, leaves, stems, lint, immature seeds, and sand and/or dirt. Cotton must be harvested by commercial equipment (stripper and mechanical picker) to provide an adequate representation of plant residue for the ginning process. At least three field trials for each type of harvesting (stripper and picker) are needed, for a total of six field trials.