Email B. Group 012. Fruiting Vegetables, Cucurbits - Summaries

Option 1: 11A. Cucumber and Summer Squash 11B. Melons 11C. Winter Squash	Option 2 (ICGCC): 11A. Melon 11B. Squash/Cucumber
Option 3 (edible peel vs inedible peel): 11A. Cucumber and Summer Squash 11B. Melons and Pumpkins	Option 4: 11A. Cucumber and Melons 11B. Squashes
Option 5: No subgroups	

What was the rationale for separating melon and winter squash?	
Country	Response
Canada:	Cucumber and summer squash represent a worse-case scenario, due to their smaller size and the whole commodity is consumed, while winter squash is larger and only the interior fruit is consumed. No exceedances of MRLs on winter squash have been observed, therefore the use of residue data from cucumber and summer squash adequately covers residues in winter squash and pumpkins.
Chile:	Cited GAP, potential for pesticide residue, production practices, maturity and morphology.
Ecuador:	Based on consumption, winter squash is consumed as a vegetable in an immature stage as a vegetable in soups or stews, while melon is consumed ripe and without peel.
European Union:	Separating melons and winter squash is not supported by the EU.
India:	Melons are eaten raw, while winter squashes are eaten after cooking in India.
Indonesia:	Cited (1) different potential for pesticide residue, (2) different peel texture, (3) different GAP, and (4) different residue behavior.
Japan	Supports option 1, citing differences in consuming melons fresh after peeling and winter squashes are cooked (simmered winter squash). Although mature fruit of winter squash are often too tough to consume, peels of winter squash varieties are widely consumed in Japan.
New Zealand:	Separating melons and winter squash is not supported.
United States:	Based on the criteria for the selection of representative commodities, melons, summer squash and cucumber are adequate representative commodities for cucurbits.

What criteria were used to separate or combine melon and winter squash?	
Country	Response
Canada:	To provide flexibility for setting subgroup tolerances and because of taxonomic differences between melons and winter squash.
Chile:	Considers 3 subgroups appropriate and representative.
Ecuador:	Melon peel is not consumed, while winter squash is eaten with peel as a vegetable.
European Union:	The EU supports combining melons and winter squash because of similar morphology and edible parts, which results in similar pesticide exposure and risk assessment. Both melons and winter squash have an inedible peel, rough surface and similar surface area / mass ratio.
India:	Melons are eaten peeled and not cooked, while winter squashes are peeled and cooked in India and other countries.
Japan:	The edible portion.
Indonesia:	Cited (1) taxonomy (different species), (2) morphology, (3) melons consumed as fresh fruit and immature fruit consumed as fresh vegetables, while winter squash are cooked and sometimes cooked without peeling.
New Zealand:	Supports including melons and winter squashes in the same “inedible peel” subgroup as the GAPs are likely to be similar, with similar morphologies and same edible portion.
United States:	The US separates melon and winter squash and summer squash represents winter squash. Winter squash is included in the summer squash / cucumber subgroup based on (1) similar potential for residues, (2) similar production practices and growth habits, (3) similar GAP and pest problems, (4) similar residue behavior. Residues for winter squash are expected to be lower than summer squash / cucumber due to the typical longer PHI for winter squash. In addition due to surface area to mass ratios, pesticide residues on cucumber and squash are expected to be higher than winter squash and therefore protective. Consumption of peels in cucumber and summer squash represent a worse-case regarding pesticide exposure.

Was commodity specific residue data considered versus extrapolation from other commodities?	
Country	Response
Canada:	Review of Codex MRLs for the group indicate that highest residues were found in melons. A comparison of EU MRLs between summer squashes and pumpkins / winter squashes indicted that MRLs were the same for the majority of active ingredients. Only 65 out of 453 were different (14%). Of those MRLs that were different summer squash had a higher MRL than winter squash / pumpkin in 72% of the cases.
Chile:	No comments.
Ecuador:	Extrapolation data not considered.
European Union:	The EU provided spreadsheets comparing 29 pesticides approved for cucurbits, both edible and inedible. With similar GAPs, in 10 cases, the MRL of cucumber is lower than the MRL of melons and in 8 cases the MRL of cucumber is higher than the MRL of melons. Based on examining two fungicides and two insecticides, the EU concluded that the data confirm an inconsistent and not always comparable MRLs and GAPs of edible and inedible peel, necessitating creating two distinct subgroups.
India:	--
Indonesia:	None used.
Japan:	Provided a table of 45 Codex MRLs for Fruiting vegetables, cucurbits. 35 group MRLs were established based on residue data for cucumbers, summer squash and melons. 4 group MRLs were established based on residue data for only cucumber and melons. 3 group MRLs were based on only winter squashes or pumpkins. For 3 pesticides median residues of winter squashes are within the highest and lowest median residues of cucumber, summer squash or melons.
New Zealand:	Extrapolation based on similar morphology and GAP. Dietary risk assessment is simplified by separating commodities with edible and inedible peels. When commodities are consumed both with and without peel, separate commodity codes could be used, for example edible-peeled commodities as 'Commodity (immature)'.
United States:	In a crop grouping scheme used since 1995 in the US, there are no reports of over tolerance in the Pesticide Data Program to suggest that the current US crop grouping / subgroups is inappropriate or under estimates risk.

Regardless of the number of subgroups can sufficient flexibility be proposed in the Principles and Guidance for Selection of Representative Commodities to avoid additional data generation?	
Country	Response
Canada:	Cucumber and summer squash represent a worse-case scenario, so additional residue data for winter squash is unnecessary. For risk assessment purposes, monitoring data can be used to refine risk assessments. The purpose of crop grouping is to minimize the number of representative crops, while maximizing the number of additional crops that benefit from the crop grouping concept and option 1 goes against this purpose. Option 1 requires the generation of additional residue data, which increases the regulatory burden. There have been no MRL issues due to the lack of a separate winter squash subgroup.
Chile:	No comments.
Ecuador:	Difficult without additional information.
European Union:	A compromise solution can be found provided the main criteria for the choice of representative commodities are respected.
India:	Option 2 combines 3 subgroups into 2 subgroups based on consumption (raw, melon subgroup) or cooked (squash/cucumber).
Indonesia:	Include commodities in a subgroup based on their morphology and phylogenetic relationships. For example cucumber and melon are in the same genus (*Cucumis*).
Japan:	Cucumbers and summer squash are harvested almost every day (immature fruit), while melons and winter squash are harvested after they reach full size. Dilution of pesticide residue is also different between cucumber / summer squash and melon / winter squash. Therefore residue trials are needed for both cucumber / squash and melon / winter squash. Residue data for melons can be extrapolated to winter squash and vice versa.
New Zealand:	If Option 1 is advanced instead of Option 3, data from melons could be used to support MRLs for the winter squash subgroup. Data from cucumber / summer squash should not be used to support MRLs for melons, winter squash or pumplin.
United States:	--

Please describe a compromise solution that would allow CCPR to decide on subgroups for Cucurbits in terms of generation of additional residue data and risk assessment.	
Country	Response
Canada:	**Option 3**. The option would not results in the need for an additional representative commodity and avoids the generation of additional data. Melon as the representative commodity for the Melon and Pumpkin subgroup will cover potential residues in winter squashes / pumpkins.
Chile:	No comments.
Ecuador:	Supports a comparison of residue data from edible peel versus inedible peel. [**Option 3 is essentially edible peel vs inedible peel**]
European Union:	**Option 3** is the preferred proposal. Option 1 and 4 do not provide clear rationale. The subgroups for Option 3 could be renamed to 11A. Cucumbers and similar species and 11B. Melons and similar species; avoiding pumpkins as a representative commodity. Extrapolation could be allowed from melons to pumpkins.
India:	--
Indonesia:	**Option 4**
Japan:	**Option 1**. While residue data for melons can be extrapolated to winter squashes, assuming the same GAP, melons and winter squash should be classified into separate subgroups to refine exposure assessments.
New Zealand:	No suggestion.
United States:	Although the US supports Option 2, the US could support **Option 3** if a compromise is required. The US is opposed to an option that would require the generation of additional data on another representative commodity. Crop grouping allows the use of crop groups to establish tolerances on multiple commodities, especially minor and specialty crops, based on data from representative commodities. Registrants are unlikely to spend the fund needed to conduct addition residue studies. The creation of a third subgroup is no consistent with the concept of representative commodities. Additional residue data will be required on winter squash if a third subgroup is created.

Email B. Group 012. Fruiting Vegetables, Cucurbits – Proposed Compromise:

11A. Cucumber and Summer Squash
11B. Melons

Comments that were supportive of Option 3 include:

(1.) A review of Codex MRLs for the group indicates highest residues found in melons [Canada].

(2.) A review of Codex MRLs for edible peel and inedible peel Cucurbits indicates that two distinct subgroups are needed for edible and inedible peel Cucurbits [EU].

(3.) No exceedances of MRLs on winter squashes have been observed [Canada].

(4.) The use of residue data from cucumber and summer squash adequately covers residues in winter squash and pumpkins [Canada].

(5.) Monitoring data can be used to refine risk assessments for winter squashes and pumpkins [Canada].

(6.) Residue data for melons can be extrapolated to winter squash and vice versa [Japan].

(7.) Extrapolation could be allowed from melons to pumpkins [EU].

(8.) Combining melons and winter squash is supported because of similar morphology and edible parts [EU].

(9.) Supports combining melons and winter squashes because GAPs similar [New Zealand].

(10.) Option 3 avoids the need for an additional representative commodity and the generation of additional data [Canada].

11.) For commodities that are consumed both with and without the peel, separate commodity codes can be used, i.e. "Commodity (immature)" [New Zealand].

Note that *Trichosanthes edulis* Rugayah and *Trichosanthes laeoica* C. Y. Cheng & Lu Q. Huang have been added as "Gourds, other" in 11A (unless common names can be identified).

Also note that Indian round gourd now references Gourd, round, as P*raecitrullus fistulosus* (Stocks) Pangalo is a synonym of *Benincasa fistulosa*

Also note that Malabar gourd was not transferred to 11B as Malabar gourd is consumed both as both an immature fruit similar to summer squash and also as a winter squash.

FRUITING VEGETABLES, CUCURBITS

Class A

Type 2 Vegetables Group 011 Group Letter Code VC

Group 011 Fruiting vegetables, Cucurbits are derived from the immature or mature fruits of various plants, belonging to the botanical family Cucurbitaceae: usually these are annual vines or bushes.

These vegetables are fully exposed to pesticides during the period of fruit development.

The edible portion of those fruits of which the inedible peel is discarded before consumption is protected from most pesticides, by the skin or peel, except from pesticides with a systemic action.

The entire fruiting vegetable or the edible portion after discarding the inedible peel may be consumed in the fresh form or after processing. The entire immature fruit of some of the fruiting vegetables species may be consumed, whereas only the edible portion of the mature fruit of the same species, after discarding the then inedible peel, is consumed.

The group Fruiting vegetables, Cucurbits is divided in 2 subgroups:

11A Fruiting vegetables, Cucurbits – Cucumbers and Summer squashes

11B Fruiting vegetables, Cucurbits – Melons

Portion of the commodity to which the MRL applies (and which is analysed): **Whole commodity after removal of stems.**

Group 011 Fruiting vegetables, Cucurbits

Code No.	Commodity
VC 0045	**Fruiting vegetables, Cucurbits**

Subgroup 011A Fruiting vegetables, Cucurbits – Cucumbers and Summer squashes

Code No.	Commodity
VC 2039	Fruiting vegetables, Cucurbits - Cucumbers and Summer squashes (includes all commodities in this subgroup)
VC 2652	**Alcayota**, see Gourd Malabar, VC 2657
VC 0420	**Balsam apple** *Momordica balsamina* L.
VC 4197	**Bitter melon** *Momordica charantia* L.
VC 4193	**Bitter cucumber**, see Bitter melon, VC 0421
VC 4195	**Bitter gourd**, see Bitter melon, VC 0421
VC 0421	**Balsam pear**, see Bitter melon, VC 0421
VC 0422	**Bottle gourd** *Lagenaria siceraria* (Molina) Standl.; syn: *L. vulgaris* Ser.; *L. leucantha* (Duch.) Rusby
VC 0423	**Chayote**

Sechium edule (Jacq.) Schwartz;

syn: *Chayota edulis* Jacq.

VC 2656 **Chieh qua** (young Chinese waxgourd)

Benincasa hispida (Thunb.) Cogn. var. *chieh-qua* How

VC 2657 **Chinese cucumber**

Trichosanthes kirilowii Maxim.

VC 4203 **Christophine**, see Chayote, VC 0423

VC 4207 **Courgette**, see Squash, Summer, VC 0431

VC 0424 **Cucumber**

Cucumis sativus L.; English and forcing cucumber cultivars

VC 2660 **Cucumber, brown-netted**, see Cucumber, VC 0424

Cucumis sativus L. var. sikkimensis

VC 2661 **Cucumber, exploding**

Cyclanthera brachystachya (Ser.) Cogn.

VC 2662 **Cucumber, stuffing**

Cyclanthera pedata (L.) Schrad.

VC 4209 **Cucuzzi**, see Bottle gourd, VC 0421

VC 2663 **Gac**

Momordica cochinchinensis (Lour.) Spreng.

VC 0425 **Gherkin**

Cucumis sativus L.; pickling cucumber cultivars

VC 0426 **Gherkin, West Indian**

Cucumis anguria L.

VC 2665 **Gourd, bitter snake**

Trichosanthes tricuspidata Lour.

VC 2666 **Gourd, buffalo**

Cucurbita foetidissima Kunth

VC 2667 **Gourd, club**, see Snake gourd, VC 0430

VC 2668 **Gourd, fluted**

Telfairia occidentalis Hook. f.

VC 2669 **Gourd, Malabar**

Cucurbita ficifolia Bouché

VC 2673 **Gourds, other**, including

Trichosanthes edulis Rugayah

Trichosanthes laeoica C. Y. Cheng & Lu Q. Huang

VC 2670	**Gourd, pointed**
	Trichosanthes dioica Roxb.
VC 2671	**Gourd, round**
	Benincasa fistulosa (Stocks) H. schaef. & S.S. Renner
VC 2672	**Gourd, Xishuangbanna**, see Cucumber, VC 0424
	Cucumis sativus L. var. xishuangbannansis ined.
VC 2675	**Indian round gourd**, see Gourd, round, VC 2659
	Praecitrullus fistulosus (Stocks) Pangalo
VC 2676	**Indian spine gourd**
	Momordica dioica Roxb. Ex Willd.
VC 2677	**Ivy gourd**
	Coccinia grandis (L.) Voigt
VC 2661	**Japanese snake gourd**
	Trichosanthes ovigera Blume
VC 0427	**Loofah, Angled**
	Luffa acutangula (L.) Roxb.
VC 0428	**Loofah, Smooth**
	Luffa aegyptiaca Mill.
	syn: *Luffa cylindrica* (L.) M. J. Roem;
VC 4213	**Marrow**, see Squash, Summer, VC 0431
	Cucurbita pepo L., several cultivars
VC 4241	**Patisson,** see Squash, Summer, VC 0431
VC 4243	**Sinkwa or Sinkwa towel gourd**, see Loofah, Angled, VC 0427
VC 0430	**Snake gourd**
	Trichosanthes cucumerina L.;
	syn: *T. anguina* L.
VC 2688	**Spiny bitter gourd**, see Gac, VR 2654
VC 4245	**Sponge gourd**, see Loofah, Smooth, VC 0428
VC 0431	**Squash, Summer**
	Cucurbita pepo L.; *Cucurbita pepo* L. subsp. *pepo; Cucurbita pepo* L. subsp. *Ovifera* (L.) Harz*;* several cultivars, immature
VC 4249	**Squash, White Bush**, see Squash, Summer, VC 0431
VC 2689	**Sweet gourd**, see Gac, VR 2654
VC 2690	**Tacaco**
	Sechium tacaco (Pittier) C. Jeffrey

VC 4253	**Vegetable sponge**, see Loofah, Smooth, VC 0428
VC 2692	**Wax gourd (immature fruit)**, see Chieh qua, VC 2650
VC 4257	**West Indian gherkin**, see Gherkin, West Indian, VC 0426
VC 4261	**Zucchetti**, see Squash, Summer, VC 0431
	Zapallito italiano [zucchini], see Squash, Summer, VC 0431
VC 4263	**Zucchini**, see Squash, Summer, VC 0431

Subgroup 011B Fruiting vegetables, Cucurbits - Melons

Code No.	Commodity
VC 2040	Fruiting vegetables, Cucurbits – Melons, Pumpkins and Winter Squashes (includes all commodities in this subgroup)
VC 2650	**Acorn squash**, see Winter squash, VC 0433 *Cucurbita pepo* var. *ovifera* (L.) Harz
VC 2651	**African horned melon** *Cucumis metuliferus* E. Meyer ex Naudin
VC 2653	**Butternut squash**, see Winter squash, VC 0433 *Cucurbita moschata* Duchesne
VC 2654	**Calabaza**, see Winter squash, VC 0433 *Cucurbita pepo* L.
VC 4199	**Cantaloupe**, see Melons, except Watermelon, VC 0046 *Cucumis melo* L., subsp. *melo* var. *cantaloupo* Ser.
VC 2671	**Casabanana** *Sicana odorifera* (Vell.) Naudin
VC 4201	**Casaba or Casaba melon**, see Melons, except Watermelon, VC 0046
VC 2655	**Cheese pumpkin**, see Pumpkins, VC 0429 *Cucurbita moschata* Duchesne *Cucumis melo* L., var. *inodorus* H. Jacq.
VC 2658	**Chinese wax gourd**, see Wax gourd, VC 0434
VC 4205	**Citron melon**, see Watermelon, VC 0432 *Citrullus lanatus* (Thunb.) Mansf., var. *edulis*; syn: *Citrullus edulis* Pang.
VC 2659	**Cucumber, Armenian**, see Melon, Serpent
VC 4211	**Cushaws**, see Pumpkins, VC 0429 Mature cultivars of *Cucurbita argyrosperma* C. Huber
VC 2664	**Giant pumpkin**, see Pumpkins, VC 0429

Cucurbita moschata Duchesne

VC 2674 **Hubbard squash**, see Winter squash, VC 0433

Cucurbita maxima Duchesne

VC 2678 **Kiwano**, see African horned melon, VC 2670

VC 2672 **Korean Melon**

Hybrid cultivars of *Cucumis melo* L. subsp. *agrestis* (Naudin) Pangalo

VC 2679 **Marrow** (late variety),see Pumpkins, VC 0429

VC 0046 **Melons, except Watermelon**

Several var. and cultivars of *Cucumis melo* L.

VC 4215 **Melon, Crenshaw**, see Melons, except Watermelon, VC 0046

Cultivar of *Cucumis melo* L. subsp. *melo* var. *inodorus* H. Jacq.

VC 2680 **Melon, Dudaim**, see Melons, except Watermelon, VC 0046

Cucumis melo L., var. *dudaim* (L.) Naudin.

VC 2681 **Melon, Garden**, see Melon, Mango

VC 4217 **Melon, Honey Ball**, see Melons, except Watermelon, VC 0046

Cultivar of *Cucumis melo* L., subsp. *melo* var. *cantaloupo* Ser.

VC 4219 **Melon, Honeydew**, see Melons, except Watermelon, VC 0046

Cultivar of *Cucumis melo* L., var. *inodorus* Naud.

VC 4221 **Melon, Mango**, see Vine peach

VC 2682 **Melon, nara**

Acanthosicyos horridus Welw. ex Benth. & Hook. f.

VC 4225 **Melon, Oriental Pickling**

Cucumis melo L. subsp. *agrestis* (Naudin) Pangalo var. *conomon* (Thunb.) Makino

VC 4227 **Melon, Persian**, see Melons, except Watermelon, VC 0046

Cultivar of *Cucumis melo* L., subsp. *melo* var. *cantaloupo* Ser.

VC 4229 **Melon, Pomegranate**, see Melon, Dudaim

VC 4231 **Melon, Serpent**, see Melons, except Watermelon, VC 0046

Cucumis melo L., var. *flexuosus* (L.) Naudin.

VC 4233 **Melon, Snake**, see Melons, except Watermelon, VC 0046

synonym of Melon, Serpent

VC 2683 **Melon, Snap**, see Melons, except Watermelon, VC 0046

Acanthosicyos horridus Welw. Ex Benth. & Hook. f.

VC 4235 **Melon, White-skinned**, see Melons, except Watermelon, VC 0046

Cultivars of *Cucumis melo* L. subsp. *melo* var. *inodorus* H. Jacq.

VC 4237 **Melon, Winter**, see Melons, except Watermelon, VC 0046

synonym of Melons, White-skinned, see there

VC 4239 **Muskmelon**, see Melons, except Watermelon, VC 0046

Cultivar of *Cucumis melo* L.; *C. melo* L. var. *melo*

VC 2684 **Oriental melon,** see Korean melon, see VC 2672

VC 2685 **Pumpkin**, see Pumpkins, VC 0429

Cucurbita pepo L.; *C. pepo* L. subsp. *pepo*

VC 0429 **Pumpkins**

Mature cultivars of *Cucurbita maxima* Duchesne; *Cucurbita argyrosperma* C. Huber; *C. moschata* Duchesne; *C. pepo* L. and *C. pepo* L. subsp. *pepo*

VC 2686 **Silver Seed gourd**, see Pumpkins, VC 0429

Cucurbita argyrosperma C. Huber

VC 2687 **Spaghetti squash**, see Winter squash, VC 0433

Cucurbita pepo subsp. *pepo*

VC 2691 **Vine peach**, see Melons, except Watermelon, VC 0046

Cucumis melo L. subsp. *agrestis* (Naudin) Pangalo var. *chito* (C. Morren) Naudin

VC 0432 **Watermelon**

Citrullus lanatus (Thunb.) Matsum. & Nakai var. *lanatus*

syn: *C. vulgaris* Schrad.; *Colocynthis citrullus* (L.) O. Ktze.

VC 4255 **Wax gourd**

Benincasa hispida (Thunb.) Cogn.;

syn: *B. cerifera* Savi

VC 0433 **Winter squash**, see also Pumpkins VC 0429

Mature cultivars of *Cucurbita maxima* Duchesne; *C. maxima* subsp. *maxima*; *C. moschata* Duchesne;. *C. pepo* (L.); *Cucurbita pepo* subsp. *pepo* and *Cucurbita pepo* var. *ovifera* (L.) Harz

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EPA-HQ-2018-002024_0004237

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EPA-HQ-2018-002024_0004238