

**DOCKET ID Number EPA-HQ-OPP-2006-0766**

**BEFORE  
THE UNITED STATES OF AMERICA  
ENVIRONMENTAL PROTECTION AGENCY**

**COMMENTS OF THE  
AMERICAN HERBAL PRODUCTS ASSOCIATION**

**ON**

**Tolerance Crop Grouping Program V**

**October 28, 2019**

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## Prefatory remarks

The American Herbal Products Association (AHPA) is the national trade association and voice of the herbal products industry. AHPA members include domestic and foreign companies doing business as growers, importers, processors, manufacturers, and marketers of herbs and herbal products. AHPA serves its members by promoting the responsible commerce of products that contain herbs, including conventional human foods, dietary supplements, health and beauty products, animal products, and other products.

On August 27, 2019, the Environmental Protection Agency (EPA or the Agency) issued a Federal Register notice (the August 27 Notice)<sup>1</sup> in which it proposed to amend current Crop Group 19—which includes both herbs and spices—by separating the crops into two new crop groups: Crop Group 25: Herb Group; and Crop Group 26: Spice Group (the Proposed Rule). The August 27 Notice states that, once final, these revisions will increase the utility and benefit of the crop grouping system for producers and other stakeholders involved in commercial agriculture.

Crop grouping was first adopted in relation to the regulation of pesticide residues on agricultural commodities in 1962 through a rulemaking action of the U.S. Food and Drug Administration (FDA),<sup>2</sup> prior to the 1970 establishment of EPA. At least as early as 1982, when EPA first proposed to establish an Herbs and Spices Group in an amendment to its pesticide regulations, the Agency has expressed its view that use of crop grouping “allows for regulatory relief by minimizing the burden of establishing tolerances for pesticide residues in/on minor crops.”<sup>3</sup> EPA describes minor crops as crops that have fewer than 300,000 acres in production in the United States.<sup>4</sup>

In notices announcing subsequent regulatory revisions to crop groups, EPA has repeated its view that crop grouping provides significant benefits in relation to production of minor crops. For example, in the August 27 Notice, the Agency states that it continues to believe “that crop grouping rulemakings are burden-reducing and cost-saving regulations,” and that the primary beneficiaries of this regulatory approach include minor crop producers, who benefit “because lower registration costs will encourage more products to be registered on minor crops, providing additional tools (i.e., pesticides) for pest control.”<sup>5</sup>

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<sup>1</sup> 84 Fed. Reg. 44,804 (Aug. 27, 2019).

<sup>2</sup> 27 Fed. Reg. 12,100 (Dec. 6, 1962). (revising 21 C.F.R. Part 120).

<sup>3</sup> 47 Fed. Reg. 20,635, 20,635 (May 13, 1982).

<sup>4</sup> See EPA, Pesticide Registration: Minor Uses and Grower Resources, <https://www.epa.gov/pesticide-registration/minor-uses-and-grower-resources#minoruse> (last updated Aug 2, 2019).

<sup>5</sup> 84 Fed. Reg. at 44,805.

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AHPA members market herbs and herbal products, each of which consists of or is derived from one or another botanical crop. Although some of the crops used as ingredients in AHPA members' herbal products are widely produced, the majority of these are minor crops. AHPA and its members therefore have an interest in EPA's Proposed Rule as stakeholders involved in the marketing of products derived from agriculture. These comments are therefore submitted on behalf of AHPA and its members in response to the Proposed Rule.

### **Prior AHPA communications with EPA and IR-4**

On May 21, 2013, AHPA submitted a letter to EPA and the Interregional Research Project Number 4 (IR-4) to request inclusion of over 200 specifically identified botanical commodities<sup>6</sup> not included in Crop Group 19 in IR-4's recommended revision to Crop Group 19 under development at that time (the 2013 AHPA Request). The botanical commodities identified in the 2013 AHPA Request consist of articles that AHPA members had identified as in use in the herbal products industry at the time, and each commodity was identified by its common name, scientific name, and plant part or parts used in commerce.

More than one plant part was identified for numerous of the plant species included in the 2013 AHPA Request (e.g., both the leaf and root of marshmallow (*Althaea officinalis*)), and it was AHPA's intention to request that each of these separate plant parts be included in a subsequent revision to Crop Group 19.

In addition, the 2013 AHPA Request proposed that a revised Crop Group 19 include numerous commodities either by separate species within a genus or, in some cases, only by genus. AHPA did so when numerous species within a genus are known as interchangeable sources of a commodity listed in the 2013 AHPA Request (e.g., hawthorn fruit as *Crataegus* spp.; echinacea leaf and root as *Echinacea angustifolia*, *E. pallida*, or *E. purpurea*). In these cases, AHPA intended to request that each separate species or the entire genus identified in the 2013 AHPA Request be included in a subsequent revision to Crop Group 19 as a source of the listed commodity.

In a separate communication to EPA in 2017 (the 2017 AHPA Comments<sup>7</sup>), AHPA expressed strong support for EPA to continue its process of reviewing and revising existing crop groups and adding new crop groups as necessary. AHPA noted that crop grouping mitigates the expense and time investment necessary for fulfilling the

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<sup>6</sup> For purposes of these comments, a "commodity" means a specifically identified plant part from a specifically identified crop, with "crop" meaning either an entire plant genus (e.g., *Cinnamomum* spp.) or a specifically identified plant species (e.g., *Cinnamomum aromaticum*).

<sup>7</sup> Comments of the American Herbal Products Association on EPA's Request for Comments on Evaluation of Existing Regulations, Docket No. EPA–HQ–OA–2017–0190 (May 15, 2017).

residue data requirements established under EPA’s regulations, which are limiting factors in making pesticide licensing and tolerance decisions for minor and specialty crops lacking established tolerances for pesticides widely used on major crops.

In the 2017 AHPA Comments, AHPA recommended that EPA conduct its ongoing crop group revision process in a way that expands the applicability of crop groups to as many specialty and minor crops, including herbal crops, as possible. AHPA also expressed its belief that such expansive utilization of EPA’s crop group regulations will maximize the potential burden-reducing effect of such regulatory amendments with no appreciable costs or negative impacts to consumers, minor crop producers, pesticide registrants, the environment, or human health. The 2017 AHPA Comments also expressed AHPA’s view that all or virtually all herbal crops are specialty or minor crops. This view is particularly relevant in light of the long-standing acknowledgement by EPA that crop grouping confers significant benefits in the form of reduced costs and regulatory burdens on producers of minor crops and on pesticide registrants.

### **Additional commodities should be added to new Crop Groups 25 and 26 or another new crop group**

AHPA notes that the Proposed Rule would include only about 15 percent of the commodities identified in the 2013 AHPA Request in either new Crop Group 25 or new Crop Group 26. On the other hand, the majority of these commodities would not be included in either of these new crop groups under the Proposed Rule.<sup>8</sup>

With these comments, AHPA restates its 2013 request that EPA include each of the commodities listed in the 2013 AHPA Request in a crop group under the Agency’s regulations, either in new Crop Group 25, new Crop Group 26, or, alternatively, in another crop group created for commodities outside EPA’s defined categories of “herbs” and “spices.” A list of each of the commodities identified in the 2013 AHPA

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<sup>8</sup> In a few instances in the 2013 AHPA Request where AHPA asked that an entire plant genus be added in any revised herbs or spices crop group, EPA has now proposed to add just one species of that genus to Crop Group 25 or 26. Some examples include *Crataegus* spp. and *Cymbopogon* spp. In each such instance, AHPA’s more broad request to include an entire genus was based on the fact that numerous species within a genus are used interchangeably in trade as a source of a commodity. See for example inclusion of both *Crataegus monogyna* and *C. laevigata* in a monograph published by the American Herbal Pharmacopoeia (Upton R. *et al.* 1999. Hawthorn Berry, *Crataegus* spp., Analytical, Quality Control, and Therapeutic Monograph), and inclusion of both *Cymbopogon citratus* and *C. flexuosus* in the safety evaluation of lemongrass oil published by the Flavor and Extracts Manufacturers Association (Smith R.L. *et al.* 2005. GRAS Flavoring Substances 22). AHPA has therefore included each such entire genus in Table 1 to restate the request for EPA to place the entire genus in the appropriate crop group.

Request that EPA has not proposed for inclusion in either proposed new Crop Group 25 or 26 is provided in **Table 1** at the end of these comments.<sup>9</sup>

In addition, AHPA members have identified numerous additional botanical commodities derived from minor or specialty crops that EPA has not proposed for inclusion in either new Crop Group 25 or 26. A list of each of these commodities is provided in **Table 2** at the end of these comments, and AHPA requests by the present comments that each of these newly identified commodities be included either in new Crop Group 25, new Crop Group 26, or, alternatively, in additional newly created crop group(s) appropriate for each specific commodity.

In requesting that EPA add so many additional minor and specialty crop commodities to proposed new Crop Group 25 or 26, or to some other yet-to-be-created crop group, AHPA notes that applications for many of these commodities may extend beyond use for providing flavor or aroma to conventional foods. These may be used, for example, in cosmetics, as herbal teas, or as ingredients in dietary supplements. AHPA assumes that EPA's interest in establishing a good regulatory framework through its crop groups process to provide additional tools for pest control for minor and specialty crops is not dependent on the end use of the commodities derived from such crops, so AHPA requests the Agency give due consideration to these requests, even if such non-food uses have not been previously considered.

### **A new crop group for “other botanicals” may be needed**

AHPA notes that a significant 1994 amendment to the Federal Food, Drug, and Cosmetic Act (FD&CA) may have some bearing on EPA's identification of crops that should be included in either new Crop Group 25, new Crop Group 26, or another crop group appropriate for each specific commodity when used as an herb or other botanical as an ingredient in a dietary supplement.

The Dietary Supplement Health and Education Act of 1994 established by law a new subset of foods<sup>10</sup> defined as “dietary supplements,” which may include as an ingredient “an herb or other botanical.”<sup>11</sup> The law also established a requirement that the label of a dietary supplement “identify any part of the plant from which the ingredient is derived.”<sup>12</sup>

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<sup>9</sup> In both Table 1 and Table 2 AHPA has used the term “root” to identify any underground part of a plant, and so has not differentiated among true roots, rhizomes, tubers, etc. This practice appears to be consistent with that applied by EPA in its own listing of plant parts.

<sup>10</sup> “Except for purposes of paragraph (g) and section 350f of this title, a dietary supplement shall be deemed to be a food within the meaning of this chapter.” 21 U.S.C. § 321(ff).

<sup>11</sup> 21 U.S.C. § 321(ff)(1)(C).

<sup>12</sup> 21 U.S.C. § 343(s)(2)(C).

In reviewing proposed new Crop Group 25, AHPA notes that all but two of the commodities identified are fresh or dried leaves; the two exceptions are “Flowers, edible, fresh, multiple species” and “Flowers, edible, dried, multiple species.” Thus, there are no commodities proposed to be included in new Crop Group 25 that are made up of any other plant part, such as the root or rhizome, bark, stem, fruit, seed, or other plant part.

On the other hand, in reviewing proposed new Crop Group 26, AHPA notes a great diversity of plant parts identified, including, for example, seed, bark, fruit (including several mentions of berry as the plant part), and root. In addition, several of the commodities listed in proposed new Crop Group 26 are identified as the leaf of the listed plant species.

AHPA notes neither the Proposed Rule itself nor the preamble in the August 27 Notice includes a definition or description of the term “herbs” or of the term “spices” that clarifies the Agency’s current thinking on the scope of the parts and types of plants proposed for inclusion in new Crop Groups 25 and 26, respectively. The Agency has, however, addressed this in previous relevant rulemakings. For example, in a 1983 proposed rule to create two subgroups within Crop Group 19, EPA described “herbs” as “...grown largely in temperate climatic areas, mostly for their leaves and stems and may be used fresh or dried, such as basil.” EPA also described “spices” as “...grown mostly in tropical climatic areas and consisting mostly of aromatic seeds, dried roots, flowers, fruit, and/or bark, such as allspice.”<sup>13</sup>

Absent any later discussion or commentary on this detail to the contrary, AHPA assumes that EPA now considers these descriptions relevant to its general placement of leaves in proposed new Crop Group 25 and its placement of commodities that consist of leaves and other plant parts in new Crop Group 26. As a limited exception to this apparent plant-part distinction, the Agency now proposes to place edible flowers in the Herbs Group, that is, proposed new Crop Group 25.

AHPA takes no position as to EPA’s rationale for limiting proposed new Crop Group 25 to leaves and flowers or to including more varied plant parts in proposed new Crop Group 26. It appears, however, that the Agency is primarily including only crops that are used as an “herb” or a “spice” as those terms apply to culinary uses of botanical crops in foods to impart taste or aroma.

Such limitation, however, does not recognize that the word “herb” is also used to describe other products that use plant commodities as ingredients. These include, for example, herbal tea as well as many cosmetic products. In addition, the vast number of “herb or other botanical” ingredients, as described statutorily under the FD&CA, appear to have been nearly entirely left out of consideration by EPA in its regulatory

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<sup>13</sup> 58 FR 44,990, 44,993 (Aug. 25, 1993).

process to create new Crop Groups 25 and 26, such that these important crops are barely represented in these proposed new crop groups.

AHPA notes that some years ago EPA commented on what it referred to at the time as “medicinal plants,” and recorded that “tolerances are not set for these commodities.”<sup>14</sup> But the law has changed significantly in the meantime, and many of those same plants are now used as dietary supplement ingredients and may be included as an “herb or other botanical” in these products.

EPA mentioned in the August 27 Notice that creation of new Crop Groups 25 and 26, as proposed by the Proposed Rule, will “provide a benefit to herb growers, as well as botanical herbs grown for medicinal purposes” and “to spice growers, as well as botanical spices grown for medicinal purposes.”<sup>15</sup> To the degree that the Agency also means for there to be a benefit for botanical herbs and spices grown for use as ingredients in dietary supplements, AHPA is concerned that the promised benefits will be insignificant if very few of the minor and specialty crops used in these products are included in proposed new Crop Groups 25 and 26 or in another newly-created crop group specifically for these crops.

AHPA’s preference, in order to ensure crop grouping benefits for these crops, is for EPA to reconsider the limitations of new Crop Groups 25 and 26 as proposed in the Proposed Rule and add to those groups many or most of the commodities identified in Tables 1 and 2 of these comments. Absent that outcome, however, AHPA strongly recommends the Agency recognize that the regulatory world has changed in the decades since crop grouping was first established, that the many “herbs or other botanicals” broadly marketed to American consumers of dietary supplements need to be included in EPA’s crop group process, and that one or more new “herb or other botanical” crop groups be established.

### **Some crops should be listed in a crop group and also in relation to one or more individual tolerances**

AHPA notes there several crops currently listed in an existing crop group that also have a quantitative, crop-specific tolerance established for one or more specific pesticides.

For example, carrot (*Daucus carota*) is included in Crop Group 1 (and in related subgroups 1A and 1B) and is also identified with a quantitative tolerance for numerous pesticides, including malathion (40 C.F.R. § 180.111), o-phenylphenol and its sodium salt (§ 180.129), diazinon (§ 180.153), endosulfan (§ 180.182), and numerous other specific pesticides. Similarly, endive is included in Crop Group 4–16

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<sup>14</sup> 48 Fed. Reg. 29,855, 29,860; (June 29, 1983).

<sup>15</sup> 84 Fed. Reg. at 44807.



(and in related subgroup 4–16A) and is also identified with a quantitative tolerance for numerous pesticides, including diazinon (§ 180.153) and fluazifop-p-butyl (§180.411), among several others. AHPA understands from its review of EPA’s pesticide regulations that other such examples of commodities included in a crop group that also have established tolerances for specific pesticides exist other than those listed here.

Consistent with the above examples, AHPA notes that several of the commodities included in either Table 1 or Table 2 of these comments are for crops that are currently identified with a quantitative tolerance for one or more specifically identified pesticide. These include kava (*Piper methysticum*) root, with tolerances for glyphosate (40 C.F.R. § 180.364), imidacloprid (§ 180.472), carfentrazone-ethyl (§ 180.515) and flupyradifurone (§ 180.679); tea (*Camellia sinensis*) leaf, with numerous tolerances, including for dicofol (§ 180.163), propargite (§ 180.259), bifenthrin (§180.442), and many others; and chicory (*Cichorium intybus*) root, with tolerances for thifensulfuron methyl (§ 180.439), rimsulfuron (§ 180.478), and triflurosulfuron-methyl (§180.492).

AHPA notes that a primary use for the three species identified in the prior paragraph is for use in a beverage, such that the idea expressed elsewhere in these comments for creation of another crop group for commodities with non-food applications is not relevant here. AHPA therefore requests that EPA, consistent with its current regulatory practice, refrain from excluding for consideration for inclusion in proposed new Crop Group 25 or proposed new Crop Group 26 kava root, tea leaf or chicory root, and any other commodity requested for such inclusion in these comments, on the sole basis of existing tolerances for one or more individual pesticides for the same crop. AHPA therefore affirmatively restates its request to include these commodities in proposed new Crop Group 25 or proposed new Crop Group 26.

### **Some minor corrections are needed in commodity names**

In reviewing proposed new Crop Group 26 AHPA notes a few examples of inaccurate common names of listed commodities.<sup>16</sup> For example:

- The common name of *Phyllanthus amarus* is “amla” rather than “amia”.
- The common name of *Agathosma betulina* is “buchu” rather than “buchi”.
- The common name of *Frangula purshiana* bark is “cascara sagrada” rather than “cascada buckthorn”.
- The standardized common name of *Angelica dahurica* is “fragrant angelica;” if EPA prefers another common name, that name should be “dahurian angelica” rather than “daharian angelica.”

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<sup>16</sup> For each of the commodities listed here, see McGuffin M. *et al.* 2000. *Herbs of Commerce*, 2<sup>nd</sup> edition. Silver Spring: American Herbal Products Association.

AHPA also notes just a few instances in which EPA has suggested a common name for a commodity identified for inclusion in proposed new Crop Group 25 or 26 that is not well established as the common or usual name of the commodity. For example, *Acacia* spp. is commonly known as “wattle”<sup>17</sup> but is listed for inclusion in proposed new Crop Group 26 as “wattleseed;” *Achillea erba-rotta* subsp. *moschata* is more commonly known as “milfoil”<sup>18</sup> than as “iva;” *Mitchella repens* is better named as “partridge berry”<sup>19</sup> than as “squaw vine;” etc.

To the best of AHPA’s understanding, such examples of misspellings and assignment of less commonly used common names are generally rare in EPA’s lists for proposed new Crop Groups 25 and 26. In providing these few examples of suggested changes to common names, however, AHPA does not represent that it has done a complete review of the common names provided by EPA in either proposed new Crop Group 25 or 26.

In relation to identifying accurate common names for the commodities that will be listed in proposed new Crop Groups 25 and 26, AHPA suggests EPA consider standardizing those names to those found in AHPA’s reference, *Herbs of Commerce*.

Under federal labeling regulations a food is generally required to be identified by its “common or usual name.”<sup>20</sup> Since its initial publication in 1992, this AHPA reference has taken on a role to standardize common names of herbs and other botanicals that are uniform and not confusingly similar to names of other such articles. Of additional significance is that federal labeling regulations establish that the “common or usual name of ingredients of dietary supplements that are botanicals (including fungi and algae) shall be consistent with the names standardized in *Herbs of Commerce*, 1992 edition,” and this publication is incorporated by reference in this labeling rule in accordance with 5 U.S.C. § 552(a) and 1 C.F.R. Part 51.

A second edition of AHPA’s *Herbs of Commerce* was published in 2000 and the third edition will be issued in 2020. AHPA would be pleased to coordinate with EPA staff as necessary to support use of consistent names for the many plant-derived commodities that will be included in any newly revised crop group, and can provide recommended common names for all of the commodities in Tables 1 and 2 in these comments, upon request.

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<sup>17</sup>Australian National Herbarium entry: <https://www.anbg.gov.au/acacia/>; accessed October 28, 2019.

<sup>18</sup> Wikipedia entry: [https://en.wikipedia.org/wiki/Achillea\\_erba-rotta](https://en.wikipedia.org/wiki/Achillea_erba-rotta). Accessed October 28, 2019.

<sup>19</sup> Missouri Botanical Garden entry: <http://www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx?kempercode=b345>. Accessed October 28, 2019.

<sup>20</sup> 21 C.F.R. § 101.3(b)(2).

### **Serving sizes for most herbs, spices and other botanicals are small**

AHPA understands that in establishing regulations related to use of pesticides on crops, including minor and specialty crops, EPA must maintain a priority of protecting public health. Calculations of total pesticide intake is necessarily related to consumption levels, such that the agency may need to take into account the amounts of foods that are likely to include any crop for which a tolerance is established, either on an individual pesticide basis or through listing in a crop group.

As a rule, the consumption level of herbs and spices for culinary uses is quite small, a fact that EPA appears to have acknowledged in an earlier crop group rulemaking process, stating in reply to one comment “the amounts of commodities [in the Herbs and Spices group] that are consumed is so small....”<sup>21</sup> The oral consumption level of herbs, spices, and “other botanicals” as that term is used herein is also quite small. For example, the standard amount of an herbal commodity in a tea bag is generally not more than 2.0 grams, and based on an informal marketplace survey conducted by AHPA staff, the daily consumption of an “herb or other botanical” ingredient in a dietary supplement product is most commonly in an amount of 3.0-5.0 grams. While this data may not represent a thorough review of the market, certainly the amount consumed of an herbal tea or dietary supplement is less than the customary serving sizes for the many common vegetables for which tolerances are established for one or another pesticide under 40 C.F.R. Part 180.

### **Summary and conclusion**

AHPA has noted in these comments that EPA has long expressed a position that crop grouping has significant benefits for numerous stakeholders, including producers of minor crops. AHPA has also noted that virtually all herbs, spices and other botanicals are minor crops, such that AHPA’s members have particular interest in the benefits that are expected by creation of proposed new Crop Group 25 and proposed new Crop Group 26.

AHPA has also encouraged EPA through these comments to expand its use of its crop grouping regulations by including more botanical commodities in these two proposed new crop groups or by developing additional new crop groups as necessary to better ensure that all of the minor crop botanical commodities marketed in the United States are covered by these regulations.

AHPA is supportive of EPA establishing, maintaining and enforcing regulations that are reasonable, that seek to minimize economic burdens on U.S. domestic businesses while simultaneously achieving regulatory goals or statutory requirements, and that also minimize environmental contamination and preserve environmental and human health generally. Nothing in these comments is intended to reduce AHPA’s expressed support for these shared values.

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<sup>21</sup> 48 Fed. Reg. at 29,860.

AHPA greatly appreciates the opportunity to present comments on this matter and can be available at any mutually convenient time to further address any of the topics addressed herein. Please feel free to contact me if clarification or additional discussion is needed on the issues raised in these comments.

Respectfully submitted,



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**Table 1 – Commodities requested by AHPA in 2013 for inclusion in revised CG19 not proposed for inclusion in CG 25 or 26**

<b>Botanical name</b>	<b>Plant part</b>
<i>Allium sativum</i>	stem
<i>Aloe vera</i>	flower spikes
<i>Aloe vera</i>	leaf
<i>Alpinia galanga</i>	root
<i>Althaea officinalis</i>	root
<i>Angelica sinensis</i>	root
<i>Argentina anserina</i>	root
<i>Argentina egedii</i>	root
<i>Argentina pacifica</i>	root
<i>Artemesia annua</i>	leaf
<i>Asparagus cochinchinensis</i>	root
<i>Asparagus racemosus</i>	root
<i>Astragalus membranaceus</i>	root
<i>Atractylodes macrocephalae</i>	root
<i>Avena sativa</i>	grain
<i>Bacopa monnieri</i>	leaf
<i>Bambusa</i> spp.	leaf
<i>Baphicacanthus cusia</i>	leaf
<i>Brassica oleracea</i> var. <i>capitata</i> f. <i>rubra</i>	leaf
<i>Bupleurum chinense</i>	root
<i>Camellia sinensis</i>	leaf
<i>Capsicum annuum</i>	fruit
<i>Carica papaya</i>	leaf
<i>Cassia angustifolia</i>	leaves and pod
<i>Cassia auriculata</i>	root
<i>Ceratonia siliqua</i>	bean (pod, fruit)
<i>Chrysopogon zizanioides</i>	root
<i>Citrus ×limon</i>	peel
<i>Citrus reticulata</i>	peel
<i>Citrus sinensis</i>	flower
<i>Citrus sinensis</i>	peel
<i>Citrus sinensis</i>	flower
<i>Citrus sinensis</i>	peel
<i>Citrus</i> spp.	peel
<i>Codonopsis pilosula</i>	root
<i>Cornus</i> spp.	fruit
<i>Corydalis yanhusuo</i>	root
<i>Crataegus</i> spp.	fruit
<i>Cullen corylifolium</i>	fruit

<b>Botanical name</b>	<b>Plant part</b>
<i>Curcuma longa</i>	root
<i>Cyathula officinalis</i>	root
<i>Cyclopia</i> spp.	leaf
<i>Cymbopogon</i> spp.	leaf
<i>Cymbopogon winterianus</i>	leaf
<i>Cynara scolymus</i>	leaf
<i>Cynodon dactylon</i>	leaf
<i>Cynomorium songaricum</i>	root
<i>Dipsacus asper</i>	root
<i>Echinacea angustifolia</i>	flower
<i>Echinacea angustifolia</i>	root
<i>Echinacea pallida</i>	flower
<i>Echinacea pallida</i>	leaf
<i>Echinacea pallida</i>	root
<i>Echinacea purpurea</i>	flower
<i>Echinacea purpurea</i>	leaf
<i>Echinacea purpurea</i>	root
<i>Eclipta alba</i>	leaf
<i>Eclipta prostrata</i>	leaf
<i>Eleutherococcus senticosus</i>	leaf
<i>Eleutherococcus senticosus</i>	root
<i>Eriobotrya</i> spp.	leaf
<i>Eryngium campestre</i>	leaf
<i>Eschscholzia californica</i>	whole plant
<i>Eucalyptus macrorhyncha</i>	leaf
<i>Euterpe oleracea</i>	fruit
<i>Flickingeria fimbriata</i>	whole plant
<i>Fragaria ×ananassa</i>	leaf
<i>Fragaria vesca</i>	leaf
<i>Fraxinus</i> spp.	bark
<i>Fraxinus</i> spp.	leaf
<i>Garcinia hanburyi</i>	gum resin
<i>Garcinia mangostana</i>	fruit rind
<i>Ginkgo biloba</i>	leaf
<i>Glycyrrhiza glabra</i>	root
<i>Gomphrena globosa</i>	flower
<i>Gynostemma pentaphyllum</i>	leaf
<i>Harpagophytum procumbens</i>	root
<i>Hibiscus lunariifolius</i>	flower
<i>Hibiscus sabdariffa</i>	flower
<i>Hippophae rhamnoides</i>	fruit

<b>Botanical name</b>	<b>Plant part</b>
<i>Hordeum vulgare</i>	grain
<i>Hydrastis canadensis</i>	root
<i>Hylocereus undatus</i>	fruit
<i>Hypericum perforatum</i>	flowering tops
<i>Ilex paraguariensis</i>	leaf
<i>Indigofera tinctoria</i>	root
<i>Jasmine grandiflorum</i>	flower
<i>Jasminum officinale</i>	flower
<i>Jasminum odoratissimum</i>	flower
<i>Justicia adhatoda</i>	flower
<i>Justicia adhatoda</i>	root
<i>Justicia adhatoda</i>	stem
<i>Lawsonia inermis</i>	leaf
<i>Lepidium meyenii</i>	root
<i>Lepidium peruvianum</i>	dried root
<i>Ligusticum jeholense</i>	root
<i>Ligusticum sinense</i>	root
<i>Ligusticum spp.</i>	root
<i>Lilium spp.</i>	flower
<i>Lycium barbarum</i>	fruit
<i>Lycium spp.</i>	fruit
<i>Medicago sativa</i>	leaf
<i>Momordica charantia</i>	fruit
<i>Morella cerifera</i>	root
<i>Morella cerifera</i>	bark
<i>Mucuna pruriens</i>	seed
<i>Myrica rubra</i>	fruit
<i>Neopicrorhiza scrophulariiflora</i>	root
<i>Olea europaea</i>	fruit
<i>Olea europaea</i>	leaf
<i>Ophiopogon japonicus</i>	root
<i>Ophiopogon spp.</i>	root
<i>Paeonia lactiflora</i>	root
<i>Paeonia spp.</i>	root
<i>Paeonia suffruticos</i>	bark
<i>Panax ginseng</i>	root
<i>Panax notoginseng</i>	root
<i>Panax quinquefolius</i>	root
<i>Passiflora incarnata</i>	leaf
<i>Pelargonium sidoides</i>	root
<i>Petroselinum crispum</i>	leaf

<b>Botanical name</b>	<b>Plant part</b>
<i>Phyllanthus niruri</i>	plant
<i>Plantago ispagula</i>	leaf
<i>Plantago ovata</i>	seed
<i>Platycodon grandiflorus</i>	root
<i>Polygala senega</i>	root
<i>Polygala sibirica</i>	root
<i>Polygala</i> spp.	root
<i>Polygala tenuifolia</i>	root
<i>Prunus avium</i>	fruit
<i>Prunus cerasus</i>	fruit
<i>Prunus persica</i>	leaf
<i>Prunus serotina</i>	bark
<i>Prunus</i> spp.	fruit
<i>Pseudostellaria heterophylla</i>	root
<i>Punica granatum</i>	seed
<i>Raphanus sativus</i>	root
<i>Raphanus sativus</i>	sprout
<i>Rauvolfia serpentina</i>	root
<i>Rehmannia glutinosa</i>	root
<i>Reynoutria multiflora</i>	root
<i>Ribes nigrum</i>	leaf
<i>Rosa canina</i>	fruit ("hips")
<i>Rosa damascena</i>	flower
<i>Rosa</i> spp.	fruit ("hips")
<i>Rubus fruticosus</i>	leaf
<i>Rubus idaeus</i>	fruit
<i>Rubus idaeus</i>	leaf
<i>Rubus</i> spp.	fruit
<i>Rubus</i> spp.	leaf
<i>Rubus suavissimus</i>	fruit
<i>Rubus suavissimus</i>	leaf
<i>Salvia miltiorrhiza</i>	root
<i>Sambucus nigra</i>	fruit
<i>Schisandra chinensis</i>	fruit
<i>Scrophularia nodosa</i>	flowering tops, leaf
<i>Scutellaria baicalensis</i>	root
<i>Scutellaria lateriflora</i>	flowering tops, leaf (dried and fresh)
<i>Silybum eburneum</i>	seed
<i>Siraitia grosvernii</i>	fruit
<i>Smilax aristolochiifolia</i>	root
<i>Smilax medica</i>	root



<b>Botanical name</b>	<b>Plant part</b>
<i>Sophora japonica</i>	fruit
<i>Sphaeranthus indicus</i>	flower
<i>Taraxacum officinale</i>	root
<i>Ternstroemia pringlei</i>	fruit, bud
<i>Tilia ×europaea</i>	flower
<i>Tilia</i> spp.	flower
<i>Tilia</i> spp.	leaf
<i>Tilia</i> spp.	wood
<i>Tribulus terrestris</i>	fruit
<i>Trifolium pratense</i>	leaf
<i>Trifolium repens</i>	leaf
<i>Trifolium repens</i>	flower
<i>Triticum aestivum</i>	bran/flower/germ
<i>Urtica</i> spp.	leaf
<i>Urtica urens</i>	leaf
<i>Vaccinium angustifolium</i>	fruit
<i>Vaccinium angustifolium</i>	leaf
<i>Vaccinium corymbosum</i>	fruit
<i>Vaccinium corymbosum</i>	leaf
<i>Vaccinium macrocarpon</i>	fruit
<i>Vaccinium myrtillus</i>	fruit
<i>Vaccinium</i> spp.	fruit
<i>Vaccinium</i> spp.	leaf
<i>Valeriana officinalis</i>	root
<i>Verbena</i> spp.	flower
<i>Vigna angularis</i>	seed
<i>Vitis vinifera</i>	seed
<i>Withania somnifera</i>	leaf
<i>Withania somnifera</i>	root
<i>Zea mays</i>	silk
<i>Zingiber officinale</i>	root
<i>Ziziphus jujuba</i>	fruit
<i>Ziziphus jujube</i> var. <i>spinosa</i>	seed

**Table 2 - Additional commodities requested for inclusion in CG 25 or 26 or in a new (e.g., “other botanical”) crop group**

<b>Botanical name</b>	<b>Plant part</b>
<i>Abies sibirica</i>	leaf
<i>Achillea millefolium</i>	flower
<i>Actaea racemosa</i>	root
<i>Aesculus hippocastanum</i>	seed
<i>Agave</i> spp.	plant
<i>Albizia lebeck</i>	stem bark
<i>Albizia julibrissin</i>	bark
<i>Allium sativum</i>	bulb
<i>Ammi visnaga</i>	flower
<i>Ammi visnaga</i>	seed
<i>Anemopsis californicum</i>	root
<i>Angelica archangelica</i>	root
<i>Apium graveolens</i>	leaf
<i>Arctium lappa</i>	root
<i>Arctium lappa</i>	seed
<i>Arctium</i> spp.	leaf
<i>Arctostaphylos uva ursi</i>	leaf
<i>Arisaema triphyllum</i>	root
<i>Aristolochia chilensis</i>	fruit
<i>Armoracia rusticana</i>	root
<i>Arnica montana</i>	flower
<i>Artemisia absinthium</i>	flower
<i>Artemisia annua</i>	flowering herb
<i>Asarum canadense</i>	root
<i>Asclepias tuberosa</i>	root
<i>Ascophyllum nodosum</i>	plant
<i>Astragalus mongholicus</i>	root
<i>Baptisia</i> spp.	root
<i>Berberis aquifolium</i>	root
<i>Berberis</i> spp.	root
<i>Berberis vulgaris</i>	root
<i>Beta vulgaris</i>	root
<i>Betula</i> spp.	bark
<i>Boswellia serrata</i>	oleo-gum-resin
<i>Brassica oleracea</i> Acephala	sprouted seed
<i>Brassica oleracea</i> Botrytis	sprouted seed
<i>Brassica oleracea</i> Capitata	sprouted seed
<i>Brassica oleracea</i> var. <i>italica</i>	sprouted seed
<i>Bupleurum falcatum</i>	root

<b>Botanical name</b>	<b>Plant part</b>
<i>Cannabis sativa</i>	threshing residues
<i>Cannabis sativa</i>	seed
<i>Cannabis sativa</i>	flowering tops
<i>Capsella bursa-pastoris</i>	flowering herb
<i>Cassia senna</i>	leaf
<i>Caulophyllum thalictroides</i>	root
<i>Ceanothus americanus</i>	root
<i>Centaurea benedicta</i>	flowering herb
<i>Chamaelirium luteum</i>	root
<i>Chelidonium majus</i>	whole flowering plant
<i>Chenopodium bonus-henricus</i>	leaf
<i>Chionathus virginicus</i>	bark
<i>Cichorium intybus</i>	root
<i>Cinchona ledgeriana</i>	bark
<i>Cinchona succirubra</i>	bark
<i>Cinnamomum cassia</i>	bark
<i>Citrus bergamia</i>	fruit
<i>Cocos nucifera</i>	fruit
<i>Coleus forskohlii</i>	root
<i>Coffea arabica</i>	berry
<i>Cola nitida</i>	seed
<i>Colchicum autumnale</i>	seed
<i>Collinsonia canadensis</i>	flowering herb
<i>Collinsonia canadensis</i>	root
<i>Commiphora</i> spp.	oleo-gum-resin
<i>Cordyceps militaris</i>	mycelium
<i>Crataegus laevigata</i>	berry
<i>Crataegus monogyna</i>	leaf
<i>Crataegus monogyna</i>	flower
<i>Crataegus</i> spp.	leaf
<i>Crataegus</i> spp.	flower
<i>Crataeva nurvala</i>	stem bark
<i>Croton echioides</i>	stem w/bark
<i>Croton lechleri</i>	tree sap
<i>Cucurbita pepo</i>	seed
<i>Cyclanthera pedata</i>	fruit/leaf
<i>Cynara cardunculus</i>	leaf
<i>Cytisus scoparius</i>	flowering top
<i>Daucus carota</i>	root
<i>Dioscorea villosa</i>	root
<i>Echinacea purpurea</i>	seed

<b>Botanical name</b>	<b>Plant part</b>
<i>Elettaria cardamomum</i>	seed w/ pod
<i>Elymus repens</i>	root
<i>Epigea repens</i>	leaf
<i>Epilobium parviflorum</i>	leaf
<i>Equisetum arvense</i>	leaf
<i>Equisetum telmateia</i>	leaf
<i>Euphorbia hirta</i>	leaf
<i>Euphorbia latheris</i>	seed
<i>Euphorbia resinifera</i>	latex
<i>Euphrasia officinalis</i>	leaf
<i>Euphrasia</i> spp.	flowering herb
<i>Fagus sylvatica</i>	wood
<i>Fontainea picrosperma</i>	seed
<i>Frangula alnus</i>	bark
<i>Fucus</i> spp.	thallus
<i>Fucus vesiculosus</i>	whole plant
<i>Galega officinalis</i>	leaf
<i>Galeopsis segetum</i>	leaf
<i>Galeopsis tetrahit</i>	leaf
<i>Galium aparine</i>	flowering herb
<i>Ganoderma lingzhi</i>	mushroom
<i>Ganoderma lucidum</i>	mycelium
<i>Ganoderma lucidum</i>	fruiting body/mushroom
<i>Gentiana lutea</i>	root
<i>Geranium maculatum</i>	root
<i>Gloriosa superba</i>	seed
<i>Glycine max</i>	seed
<i>Gossypium hirsutum</i>	root bark
<i>Grifola frondosa</i>	fruiting body
<i>Grifola frondosa</i>	mycelium
<i>Grindelia integrifolia</i>	budding & flowering tops
<i>Haematococcus pluvialis</i>	algae
<i>Hamamelis virginiana</i>	leaf & young twig
<i>Handroanthus impetiginosus</i> (syn: <i>Tabebuia serratifolia</i> )	inner bark
<i>Harpagophytum</i> spp.	root
<i>Hebanthe erianthos</i>	root
<i>Hedera helix</i>	leaf
<i>Helianthus</i> spp.	seed
<i>Hemidesmus indicus</i>	root
<i>Hericium erinaceus</i>	mycelium and fruiting body

<b>Botanical name</b>	<b>Plant part</b>
<i>Hordeum vulgare</i>	leaf
<i>Humulus lupulus</i>	strobile
<i>Huperzia serrata</i>	plant
<i>Hydrangea arborescens</i>	root
<i>Hydrastis canadensis</i>	leaf
<i>Hyssopus officinalis</i>	flowering herb
<i>Ilex guayusa</i>	leaf
<i>Inonotus obliquus</i>	mycelium and fruiting body
<i>Iris versicolor</i>	root
<i>Juglans nigra</i>	green hull
<i>Larrea tridentata</i>	flowering herb
<i>Lentinula edodes</i>	fruiting body
<i>Ligusticum porteri</i>	root
<i>Lilium</i> spp.	flower
<i>Linum usitatissimum</i>	seed
<i>Lobelia inflata</i>	leaf & seed
<i>Lomatium dissectum</i>	root
<i>Lycium chinense</i>	fruit
<i>Lycopus</i> spp.	flowering herb
<i>Maranta arundinacea</i>	root
<i>Marrubium vulgare</i>	flowering herb
<i>Melilotus officinale</i>	leaf
<i>Mitchella repens</i>	leaf
<i>Morella cerifera</i>	root bark
<i>Morinda citrifolia</i>	fruit
<i>Moringa oleifera</i>	leaf
<i>Narcissus pseudonarcissus</i>	bulb
<i>Opolopanax horridus</i>	root bark
<i>Oriza</i> spp.	hulls, husks and brans
<i>Oryza sativa</i>	seed
<i>Passiflora</i> spp.	fruit
<i>Pausinystalia johimbe</i>	bark
<i>Phaseolus vulgaris</i>	seed
<i>Phaseolus vulgaris</i>	pod w/o bean
<i>Phellodendron amurense</i>	stem bark
<i>Phyllanthus</i> spp.	leaf
<i>Phytolacca americana</i>	root
<i>Picrasma excelsa</i>	wood
<i>Piper methysticum</i>	root
<i>Piper nigrum</i>	leaf
<i>Piscidia piscipula</i>	bark

<b>Botanical name</b>	<b>Plant part</b>
<i>Plantago major</i>	leaf
<i>Plectranthus barbatus</i>	root
<i>Podophyllum peltatum</i>	root
<i>Polygonum cuspidatum</i>	root
<i>Pueraria lobata</i>	root
<i>Pulsatilla vulgaris</i>	leaf
<i>Quassia</i> spp. / <i>Picrasma</i> spp.	wood
<i>Rauwolfia vomitoria</i>	bark, root
<i>Rheum emodi</i>	root
<i>Rheum palmatum</i>	root
<i>Rhodiola crenulata</i>	root
<i>Rhodiola rosea</i>	root
<i>Rosa pendulina</i>	fruit
<i>Rumex acetosella</i>	whole plant
<i>Rumex crispus</i>	root
<i>Ruscus aculeatus</i>	root
<i>Salvia apiana</i>	leaf
<i>Salvia hispanica</i>	seed
<i>Salvia officinalis</i>	root
<i>Sambucus ebulus</i>	fruit
<i>Sanguinaria canadensis</i>	root
<i>Santalum album</i>	seed
<i>Sapindus rarak</i>	fruit
<i>Sassafras albidum</i>	root bark
<i>Selenicereus</i> spp.	stem
<i>Serenoa repens</i>	berry
<i>Sesamum indicum</i>	seed
<i>Sideritis scardica</i>	leaf
<i>Sideritis</i> spp.	leaf
<i>Sisymbrium officinale</i>	leaf
<i>Solidago canadensis</i>	flowering top
<i>Solidago virgaurea</i>	leaf
<i>Spilanthes acmella</i>	whole flowering plant
<i>Spinacia oleracea</i>	leaf
<i>Stellaria media</i>	flowering herb
<i>Stellaria media</i>	leaf
<i>Stemona sessilifolia</i>	root
<i>Stillingia sylvatica</i>	root
<i>Symphytum officinale</i>	root
<i>Symphytum</i> spp.	leaf
<i>Symphytum</i> spp.	root

<b>Botanical name</b>	<b>Plant part</b>
<i>Symplocarpus foetidus</i>	root
<i>Tamarindus indica</i>	seed
<i>Taraxacum officinale</i>	leaf
<i>Terminalia sericea</i>	bark root
<i>Theobroma cacao</i>	exocarp
<i>Theobroma cacao</i>	seed
<i>Thuja occidentalis</i>	branchlet
<i>Thuja occidentalis</i>	leaf
<i>Trametes versicolor</i>	mycelium and fruiting body
<i>Turnera diffusa</i>	flowering herb
<i>Uncaria tomentosa</i>	inner bark
<i>Urtica dioica</i>	root
<i>Urtica dioica</i>	seed
<i>Usnea</i> spp.	lichen
<i>Veratrum californicum</i>	root
<i>Verbascum</i> spp.	flower
<i>Verbascum thapsus</i>	flower
<i>Verbascum thapsus</i>	leaf
<i>Verbena hastata</i>	flowering top
<i>Veronicastrum virginicum</i>	root
<i>Viburnum opulus</i>	bark
<i>Viburnum prunifolium</i>	stem and root bark
<i>Vigna radiate</i>	seed
<i>Vinca major</i>	leaf and flowering tips
<i>Viola tricolor</i>	flowering herb
<i>Viscum album</i>	leaf
<i>Wolfiporia cocos</i>	mycelium
<i>Yucca schidigera</i>	stem juice
<i>Zanthoxylum clava-herculis</i>	bark