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Alexandra Dapolito Dunn  
Assistant Administrator, Office of Chemical Safety and Pollution Prevention  
c/o OPP Docket  
Environmental Protection Agency  
Docket Center (EPA/DC) (28221T)  
1200 Pennsylvania Ave. NW,  
Washington, DC 20460-0001

Docket ID: EPA-HQ-OPP-2006-0766

Dear Assistant Administrator Dunn,

The American Spice Trade Association (ASTA) appreciates the opportunity to comment on the United States (U.S.) Environmental Protection Agency's (EPA's) proposed rule on the Tolerance Crop Grouping Program, published in the Federal Register at 84 Fed. Reg. 44804, Tuesday, August 27, 2019, *Docket ID: EPA-HQ-OPP-2006-0766, Tolerance Crop Grouping Program V.*

#### Introduction

ASTA was founded in 1907 and represents the interests of approximately 200 members including companies that grow, dehydrate, and process spices. ASTA's members include U.S. based agents, brokers and importers, and companies based outside of the U.S. that grow spices and ship them to the U.S. and other companies associated with the U.S. spice industry. ASTA members manufacture and market the majority of spices sold in the U.S. for industrial, food service and consumer use. The highest priority of ASTA and our members is ensuring the supply of clean, safe spice to American consumers.

The spice and herb categories include a wide array of different commodities that are used for seasoning foods. Despite comprising a wide array of commodities, these ingredients are collectively consumed in very small quantities. According to the FDA's What We Eat in America Food Commodity Intake Database<sup>1</sup>, Americans consume an average of less than a gram of herbs and spices per day. As such, the potential exposure to pesticide residues from consumption of these products is typically minimal.

The majority of herbs and spices consumed in the U.S. are grown in many different countries around the world, and subsequently imported for processing and use in the U.S. Although the spice and herb categories actually represent many different agricultural products with different

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<sup>1</sup> What We Eat in America: Food Commodity Intake Database. Available at: <http://fcid.foodrisk.org/>



supply chains, there are shared commonalities for many of these products, including growers, buyers, brokers, countries of origin, and growing and farming conditions. The nature of how these commodities are grown and exported result in challenges navigating the regulatory framework for the establishment of pesticide tolerances in the U.S.

Many spice farmers are subsistence farmers in developing countries who rely on the yields of their spice crops for the livelihoods of their families. Spices are typically grown on very small farms (<10 hectares), which yield relatively low spice quantities per farm, perhaps only a few hundred pounds annually. Since most spice companies need relatively large quantities for their commercial purposes, at least several tons at a time, spices typically need to be consolidated from many farms – in some cases hundreds of farms – in order to obtain commercially viable quantities for importers. This consolidation process generally involves multiple points of comingling by various middlemen throughout the process. As such, traceability to the farm level is a challenge for spice importers. Considering that a given shipment of spices may be sourced from hundreds of farmers, traceback to the farm level has challenges and may have differing utility depending on the product. There is a great deal of variability in the current degree of traceback to this level depending on the specific company, commodity, end use, certification status, etc.

Traceability efforts in recent years has largely been focused on ensuring compliance with new food safety regulations. Under the Food Safety Modernization Act's Foreign Supplier Verification Program<sup>2</sup> rule, companies sourcing comingled commodities such as spices are required to trace back to any step in the process where the product was processed for safety purposes. As safety of the product is the number one priority, this is the key focus of the industry.

ASTA and its members promote good agricultural practices and provide resources and farmer training. For example, ASTA has partnered with the Sustainable Spice Initiative<sup>3</sup> to provide farmer training on agrochemical practices on black pepper in Vietnam. Additionally, ASTA has guidance in various languages on its website on good agricultural practices for spices. Despite these efforts, it remains a challenge to have complete control over farmer practices throughout each spice supply chain.

Each spice and herb possesses its own specific climate and growing requirements as well as its own unique pest and disease threats. Spice farmers may use chemicals to manage these threats. Like all good crop and pest management, farmers typically use chemicals and pest management products responsibly. Monitoring data has shown levels of residues observed on spices are typically very low.

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<sup>2</sup> Foreign Supplier Verification Program 21 CFR §1 Subpart L (2016)

<sup>3</sup> Sustainable Spices Initiative. Available at : <https://www.idhsustainabletrade.com/initiative/sustainable-spices-initiative/>



ASTA is appreciative and supportive of the EPA's efforts to establish pesticide tolerances for minor crops that are grown in and/or imported into the United States. Pesticides are an important part of crop management, protecting crop yields, and harvesting supply. Therefore, pesticide tolerances are a necessity and the industry would benefit from modifications to the current process to alleviate the cost and burden of obtaining these tolerances. ASTA commends the EPA for taking the time to plan and release the new extended crop groupings in order to help ease the burden of establishing pesticide tolerances on minor crops. ASTA appreciates that EPA is proposing adding a significant number of dried herbs and spices to the Crop Groupings and supports the objectives of this proposed rule.

As explained below, ASTA offers the following comments on the proposal:

- ASTA supports the new policy to allow the use of monitoring data to establish tolerances for spices and seeks confirmation on whether monitoring data on representative crop may be used for the establishment of a crop group tolerance. Additionally, ASTA requests that this monitoring data approach also extend to the herb category.
- ASTA requests that EPA adopt an alternative approach for the selection of representative crops for spices. Considering that the vast majority of spices are imported into the United States, ASTA proposes that EPA create a system to allow other commodities within the spice category to serve as the representative crop.
- ASTA requests expansion of Crop Group 25 and Crop Group 26 to include several additional herbs and spices.
- ASTA requests that where a current pesticide has an existing tolerance for dill seed, such tolerance should be automatically converted to Crop Group 26 as a part of the update to the crop groupings along with all established tolerances on herb and spice crop groupings.
- ASTA requests that EPA clarify its use of a dehydration factor for herbs and spices.

#### ASTA Supports the New Monitoring Data Policy

ASTA supports the EPA policy to allow the use of monitoring data to support the establishment of import tolerances for spices.<sup>4</sup> This policy significantly alleviates the burden of conducting extensive field trials for spices. Conducting field trials on spices is challenging because they are minor crops and are grown primarily overseas. Furthermore, monitoring data is more representative of actual residue levels in the commercial trade than field trial data. Since spices are frequently dried, comingled, and shipped over long distances, monitoring data better reflects actual levels of pesticide residues potentially observed in the supply chain. EPA acknowledged this policy in the preamble of the proposed rule and ASTA supports using such data to the maximum extent as discussed below. ASTA requests that EPA release guidance on using monitoring data for the process of establishing an import tolerance and allow an

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<sup>4</sup> Proposed Rule 44806



opportunity to comment on the data requirements. ASTA would welcome an opportunity to discuss this issue further with EPA.

#### ASTA Seeks Clarification on EPA's Monitoring Data Policy

ASTA requests confirmation that monitoring data can be used to establish import tolerances for the entire crop grouping in lieu of field trial data. For example, in the Proposed Rule, EPA states that "data on the representative commodity of either dill seed or celery seed would still be necessary to support the establishment of a group 26 tolerance."<sup>5</sup> It is unclear whether "data" in this sentence refers to monitoring data, which is discussed throughout the proposed rule or field trial data. ASTA believes that the Agency's intention is that monitoring data on either dill seed or celery seed can be used to establish a tolerance for the entire spice group. Confirmation by the Agency is requested.

ASTA requests clarification from EPA on whether under certain circumstances, monitoring data on other commodities included in the crop group can serve as the representative commodity to establish the crop group tolerance. As discussed below, ASTA is requesting that the EPA allow reliable monitoring data on any commodity within the spice or herb crop group be used as support for the establishment of a group tolerance, recognizing that this commodity should fit the parameters set forth by EPA. This approach is consistent with the recommendation of a 2017 ChemSAC meeting on the ability to use monitoring data to establish import tolerances for spices, which recommends allowing the spice with the highest residue data to serve as the representative commodity for that particular chemical.<sup>6</sup> ASTA supports this approach.

However, in the event that EPA retains the current proposal of establishing only either dill seed or celery seed as the representative commodity for spices, it would alleviate the burden to the industry stakeholders to allow monitoring data on these commodities to support the tolerances for the entire spice crop group. Most spices are imported. As such, in many instances the monitoring data are the best evidence of what the residue profile is for the imported spice.

#### ASTA Requests an Alternative Approach to the Selection of the Representative Crops for Crop Group 26

The proposed representative commodities for the spice crop group are either dill seed or celery seed. ASTA questions whether dill seed or celery seed should serve as the sole representative crops for the spice group. As EPA is aware, dill seed and celery seed are not widely imported.

Dill seed and celery seed are minor crops of the spice grouping, a minor crop grouping itself. Obtaining residue data for such minor crops is a difficult challenge due to the limited quantities

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<sup>5</sup> Tolerance Crop Grouping Program V., 84 Fed. Reg. 44804, August 27, 2019 at 44806.

<sup>6</sup> USEPA. *Chemistry Science Advisory Council (ChemSAC) Meeting Minutes: Use of Monitoring Data to Establish Import Tolerances for Pesticide Residues in Spices*. May 10, 2017.



of the spices grown or available to the industry. These commodities are not the most commercially relevant crops for the U.S. spice industry. There are limited sales of dill seed and celery seed in the U.S. The amount of dill imported into the U.S. in 2018 was only slightly over 900MT<sup>7</sup> which includes both dillweed and dill seed. The value of those imports was less than \$3M, which represents less than 1% of spices imported into the United States in 2018. Likewise, since exports of dill are so minor, there is no exportation code for dill. Celery seed is such a minor crop that there is not even a specific tariff code in the Harmonized Tariff Schedule for celery seed, for either importation or exportation. ASTA questions whether there will be enough data on either of these minor crops to establish many tolerances.

This concern extends to the chemical suppliers, because if these crops are not commercially relevant for chemical suppliers it will be even more difficult to obtain residue data in order to establish pesticide tolerances. The growers for both celery seed and dill seed also have limited capabilities for financial investment and so any investment for obtaining monitoring data would be minimal.

ASTA believes that strong consideration should be given by EPA to maximize the applicability of crop groups for commodities being imported and not simply focus on domestic growers. As EPA has noted, the commodities listed in the crop group are botanically related or taxonomically related. Likewise, as described above, spices share similar challenges in the ability to obtain tolerances and are consumed in a similar manner. The agency should consider how it can increase the utility of the spice crop group, particularly in circumstances where much of the crop is imported. Allowing monitoring data from other commodities listed in the crop group to serve as the representative commodity will enhance the utility of the crop grouping system, thereby greatly benefitting U.S. importers and manufacturers involved in commercial trade and food production.

Due to the difficulty in obtaining data on dill seed or celery seed, ASTA respectfully requests that EPA look to a system that would allow other commodities within the crop group to also serve as the representative crop, as long as the representative crop meets the criteria set forth by EPA. EPA states that representative commodities in the spice group were selected based on “similarities of raw agricultural commodities, cultural methods, pest problems, and exposure to pesticide sprays.”<sup>8</sup> The EPA also states that the representative crops “also tend to be an equal or more conservative estimate of tolerances and potential residues.”<sup>9</sup>

A 2017 ChemSAC meeting on using monitoring data to establish import tolerances for pesticide residues on spices recommended that EPA adopt a policy of using monitoring data to establish tolerances for residues in/on spices for import purposes and suggested “that the spice with the highest maximum residue level be considered representative for the entire spice crop group. In situations where residue data are available from dill seed/celery seed field trials and from

<sup>7</sup> USDA GATS data, available at: <https://apps.fas.usda.gov/gats/default.aspx>.

<sup>8</sup> Proposed Rule at 44814.

<sup>9</sup> Proposed Rule at 44814



monitoring that the dataset resulting in the highest tolerance level be used to establish the tolerance for residues in/on Crop Group 26.”<sup>10</sup> ASTA supports this recommendation as it would provide greater flexibility for the industry to provide data to establish a crop group tolerance.

EPA could also look to the Codex approach, wherein there is flexibility that a commodity that fits the criteria set forth by Codex<sup>11</sup> within a subgroup for spices would be used to establish a tolerance for that subgroup. Within Codex Group 28, Spices, there are multiple subgroups within the category established based on type of the plant from which the spices were derived. Codex allows for the flexibility that a different representative commodity that meets the criteria within the various subgroups to serve as the representative commodity for that subgroup. The criteria for Codex are that the representative commodity is most likely to contain the highest residue, is likely to be major in terms of production or consumption and is likely to be similar to the related commodities within the group.<sup>12</sup> While, the ability to select any spice within the group for spices would be favorable for the spice industry, the establishment of subgroups for spices is less favorable for the spice industry because it would require substantially more data to be submitted for the establishment of a broader crop group tolerance, which would be a significant barrier to obtaining more tolerances for spices. ASTA agrees with EPA’s proposal not to establish subgroups in the proposed crop group 26.<sup>13</sup>

As such, ASTA respectfully requests that in circumstances where there are reliable residue monitoring data for other commodities listed in the crop group for spices, EPA accept such commodity as a representative crop in order to establish tolerance for the entire crop group.

#### ASTA Supports the Ability to Use Monitoring Data for Herbs

ASTA supports the use of monitoring data for the establishment of tolerances for the herb crop group, crop group 25 and the spice group 26. Crop groups 25 and 26 are similar in many ways and share challenges related to the establishment of pesticide tolerances. These commodities are often traded by the same commercial entities, share similar supply chains, and many herbs in the new herb category 25 are also grown overseas and would be difficult to obtain residue trial data. Spices and herbs are also often treated similarly by international regulatory bodies. For example, the Codex Committee on Spices and Culinary Herbs (CCSCH)<sup>14</sup> addresses both

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<sup>10</sup> USEPA. *Chemistry Science Advisory Council (ChemSAC) Meeting Minutes: Use of Monitoring Data to Establish Import Tolerances for Pesticide Residues in Spices*. May 10, 2017.

<sup>11</sup> Principles and Guidance on the Selection of Representative Commodities for the Extrapolation of Maximum Residue Limits for Pesticides to Commodity Groups, CXG 84-2012.

<sup>12</sup><http://ir4.rutgers.edu/FoodUse/Crop%20Grouping/Principles%20and%20Guidance%20for%20Selection%20Rep%20Commodities.pdf>

<sup>13</sup> Proposed Rule 44814

<sup>14</sup> <http://www.fao.org/fao-who-codexalimentarius/committees/committee/en/?committee=CCSCH>



spices and culinary herbs. ASTA respectfully requests that EPA extend the monitoring data policy to cover crop group 25, as well as 26.

### ASTA Requests the Expansion of Crop Groups 25 and 26 to Include Additional Herbs and Spices

ASTA has identified several additional products that are not included in Crop Groups 25 and 26 that are considered to be herbs or spices by the industry and other regulatory agencies.<sup>15</sup> Several of these crops may be used in either a fresh or dried version. In some cases, the fresh versions of these crops may appear in an existing crop group, however the dried products are considered herbs or spices and should fall under the appropriate crop grouping. There is commercial relevance for including these crops in the spice crop grouping, as these spices share similar supply chains, processing, importers/traders and are listed as spices by the FDA and by ASTA.

ASTA requests that the following crops be added to the new proposed Crop Group 26 in their dried forms. These crops are considered spices by the FDA in 21CFR 182.10 and are included in the ASTA spice list as spices. These lists of spices are included as appendices to these comments.

ASTA requests that the new Crop Group 26 include the following commodities in their dried form as spices:

- Red pepper, dried (*Capsicum frutescens L.* or *Capsicum annuum L.*)
- Paprika, dried (*Capsicum annuum L.*)
- Ginger, dried (*Zingiber officinale Rosc.*)
- Turmeric, dried (*Curcuma longa L.*)
- Sesame (*Sesamum indicum L.*)

Red pepper, *Capsicum annuum L.*, is already a listed several different times in its fresh form in the fruiting vegetable group (group 8) as both red pepper and paprika. However, *paprika* should not be listed under the fruiting vegetable crop at all, as the red pepper that is dried to make paprika is not called 'paprika' as a fresh pepper. Paprika is a spice and is specifically a ground dried red pepper. Therefore, ASTA requests that the EPA either move paprika from the fruiting vegetable crop group to the spices crop group, group 26 or clarify that the dried form of red pepper, namely paprika be included in Crop Group 26.

Ginger is included in the root & tuber vegetable crop group (group 1) in its fresh form. Dried or powdered ginger is used as a spice. Likewise, turmeric is included in the root & tuber vegetable crop group (group 1) in its fresh form, but when dried or powdered it is considered a spice. Therefore, ASTA requests that dried ginger and dried turmeric be included in Crop Group 26.

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<sup>15</sup> Appendix I and Appendix II.



Sesame seeds are included in the oil seed crop group (group 20). Sesame seeds are similar to poppy seeds and mustard seeds, which can have concurrent supply chains and may be handled by the same brokers or exporters. All three of these commodities are a seed and are also listed in 21 CFR 182.10 as a spice. However, in the proposed crop group 26 for spices, only poppy seeds and mustard seeds are listed as a spice. ASTA requests that, like poppy seed and mustard seed, sesame seed also be listed in crop group 26 as a spice as well as in the oil seed crop group.

EPA currently acknowledges that there are already dual listed ingredients and included this distinction and examples in this proposed rule. For example, dill weed, parsley and coriander/cilantro are currently listed under crop group 4, leafy vegetables, in the fresh state and are listed in the current crop group 19, herbs and spices, in their dried state. Although these commodities appear in other crop groups, EPA has established dual listings for commodities when they are used in both fresh and dried forms. In fact, in this proposed rule EPA included specific listings for the dried versions of these commodities in the new crop groupings for herbs while explaining that the fresh version of these commodities are located in a separate crop grouping.<sup>16</sup>

For Crop Grouping 26, Spices, ASTA would also request that the EPA combine all types of pepper, including black and white pepper (*Piper nigrum L.*) into one group of pepper, as to include other types of pepper that are the same species, such as green pepper.

ASTA requests inclusion of the following crops in their dried forms also be included in Crop Group 26, Spices:

- Pink pepper, dried (*Schinus terebinthifolius*)
- Arrowroot, dried (*Maranta arundinacea*)
- Elderberry, dried (*Sambucus spp.*)
- Garlic, dried (*Allium sativum*)
- Onion, dry bulb and green (*Allium cepa, A. fistulosum*)

Additionally, ASTA would request inclusion of the following crops in their dried forms in Crop Group 25 herbs:

- Celery leaf, dried (*Apium graveolens*)
- *Echinacea Purpurea*, dried

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<sup>16</sup> Proposed rule at 44809-10.



### ASTA Supports EPA’s Proposal to Extend Established Crop Group Tolerances to the New Crop Group

In the proposed rule, EPA states that it “will convert tolerances for any pre-existing crop groups to tolerances with the coverage of the new crop group.”<sup>17</sup> As ASTA understands this policy, any pesticide tolerance that currently applies to the Herb and Spice Group 19, would automatically applied to both the new Crop Group 25: Herb and the new Crop Group 26: Spices. Further, any pesticide tolerance that currently applies to Herb group 19A would be automatically applied to crop group 25. Likewise, any pesticide tolerance that applies to Spice Group 19B would be automatically applied to crop group 26.

ASTA supports the application of these current herb and spice crop group tolerances to the new proposed spice and herb crop groupings. In Appendix III, ASTA has listed the tolerances available for crop group 19, as well as those for 19A, herbs, and crop group 19B, spices.

### ASTA Requests Current Established Tolerances on Representative Spice Commodities Be Extended to the New Crop Group

The following pesticide tolerances are currently set out in 40CFR as established specifically for dill seed:

- § 180.103 Captan, Dill, seed 0.05ppm
- § 180.225 Phosphine, Dill, seed 0.01ppm
- § 180.142 2,4-D, Dill, seed (Indirect or inadvertent residues) 0.05ppm
- § 180.184 Linuron, Dill Seed, 0.5ppm
- § 180.425 Clomazone, Dill, seed .05ppm
- § 180.434 Propiconazole, Dill, seed 15ppm
- § 180.555 Trifloxystrobin, Dill, seed 30ppm
- § 180.582 Pyraclostrobin, Dill, seed 40ppm
- § 180.589 Boscalid, Dill, seed 100ppm
- § 180.661 Fluopyram, Dill, seed 70ppm

ASTA requests that tolerances that are currently established on dill seed be automatically extended to the entire Crop Group 26 because dill seed is the representative crop for the crop grouping. EPA will already be revising crop group tolerances as it plans to expand existing crop group tolerances to the new commodities in the crop group. In this process, EPA could also evaluate existing tolerances on representative commodities for the crop group and also expand them to the new crop group. There are currently 10 pesticide tolerances listed above and established on dill seed that the EPA could automatically extend to the entire crop grouping due to dill seed acting as the representative crop.

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<sup>17</sup> Proposed Rule at 44806.



### ASTA Requests that EPA Clarify its Use of a Dehydration Factor for Herbs

The EPA proposed rule states that “fresh herbs are grown in a different way than dried herbs.”<sup>18</sup> While this may be true, the EPA’s explanation that fresh herbs are a high-quality and carefully cultivated product while dried herbs are machine harvested without regard to insect holes, for example, is a misstatement. While growers of fresh herbs may be more concerned with insect pests and require insecticides for use, growers of herbs for dried use are concerned with other issues, including various blights that require the use of fungicide. As such, chemical use on dried herbs may not necessarily be consistently less than that used on fresh herbs.

EPA states in the proposed rule that “tolerances for dried herbs are often significantly higher (4x to 7.3x) than fresh herbs, indicating a need for different tolerances.”<sup>19</sup> ASTA would like clarification as to the source of the dehydration calculation of this information and the basis for this information. ASTA would also like clarification as to whether or not this information can be used as a dehydration factor for establishing pesticide tolerances for herbs.

ASTA is seeking clarification about whether the EPA is using a dehydration factor from fresh herbs to calculate a tolerance for dried herbs. If a pesticide tolerance was established on a fresh herb then a dehydration factor could be used to calculate the tolerance on the dried herb as well, rather than having to establish the dry tolerance separately. As such, using a dehydration factor would reduce the data collection burden necessary for establishing a pesticide tolerance on a dried commodity.

The ability to use a dehydration factor to calculate a dried spice or herb tolerance from a fresh herb or agricultural commodity would alleviate the burden for industry having to establish a tolerance on both the fresh and the dried crop separately. If EPA is using a dehydration factor or is planning on establishing a dehydration factor, ASTA would like the EPA to propose and allow an opportunity to comment on it and explain how it can be applied.

### Conclusion

ASTA thanks the EPA for their proposed rule expanding the proposed commodities included in the newly proposed Crop Group 25 for Herbs and Crop Group 26 for Spices, and for allowing the use of monitoring data in order to establish pesticide tolerances in the United States.

Additionally, ASTA seeks clarification regarding the monitoring policy and dehydration factors. Furthermore, ASTA respectfully requests consideration that the monitoring data approach be extended to herbs, that an alternative approach be considered for the selection of the representative commodities for spices, and that the newly proposed crop groups be expanded to include additional herbs and spices. Finally, ASTA requests that while the newly expanded

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<sup>18</sup> Proposed rule at 44810.

<sup>19</sup> Proposed rule at 44810.



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crop groups are being updated, that EPA also expand the tolerances on the representative commodities for spices to the broader crop group.

ASTA is available for meetings or phone calls in order to clarify any issues or questions or to provide background materials on the herb and spice industry. ASTA looks forward to the EPA's response of our outstanding questions and clarifications.

Respectfully submitted,

Laura Shumow  
ASTA Executive Director

## APPENDIX I: FDA Spice List

The term “spice” is defined in the U.S. Code of Federal Regulations for specific labeling requirements. “Spice” is defined under 21 CFR Sec. 101.22(a)(2).

The term spice means any aromatic vegetable substance in the whole, broken, or ground form, except for those substances which have been traditionally regarded as foods, such as onions, garlic and celery; whose significant function in food is seasoning rather than nutritional; that is true to name; and from which no portion of any volatile oil or other flavoring principle has been removed.

Spices include the spices listed in 182.10 and part 184 of this chapter, such as the following: Allspice, Anise, Basil, Bay leaves, Caraway seed, Cardamon, Celery seed, Chervil, Cinnamon, Cloves, Coriander, Cumin seed, Dill seed, Fennel seed, Fenugreek, Ginger, Horseradish, Mace, Marjoram, Mustard flour, Nutmeg, Oregano, Paprika, Parsley, Pepper, black; Pepper, white; Pepper, red; Rosemary, Saffron, Sage, Savory, Star aniseed, Tarragon, Thyme, Turmeric.

Paprika, turmeric, and saffron or other spices which are also colors, shall be declared as “spice and coloring” unless declared by their common or usual name. “Spice” as permitted in labeling for flavors in the statement of ingredients (h) The label of a food to which flavor is added shall declare the flavor in the statement of ingredients in the following way: (1) Spice, natural flavor, and artificial flavor may be declared as “spice”, “natural flavor”, or “artificial flavor”, or any combination thereof, as the case may be.

## APPENDIX II: ASTA Spice List

### AMERICAN SPICE TRADE ASSOCIATION SPICE LIST

#### Spices

ASTA recommends that for the purpose of complying with FDA food labeling regulations (21 CFR Sec. 101.22), the following items may be declared in a product's ingredient statement either individually by its common or usual name or included under the term "spice" as permitted in 21 CFR Sec. 101.22(h). The spices on this list, and their derivatives (e.g. extracts and oleoresins), are considered by FDA to be generally recognized as safe (GRAS), or approved food additives (See 21 CFR Secs. 172.510, 182.10, and 182.20).

COMMON OR USUAL NAME(s)	PART OF PLANT	BOTANICAL NAME(s) OF PLANT SOURCE(s)
Allspice (Pimento)	Berry	<i>Pimenta officinalis</i>
Anise Seed	Seed	<i>Pimpinella anisum</i>
Star Anise	Fruit	<i>Illicium verum</i> Hook
Balm (lemon balm)	Leaf	<i>Melissa officinalis</i> L.
Basil Leaves (Sweet)	Leaf	<i>Ocimum basilicum</i>
Bay Leaves (Laurel Leaves)	Leaf	<i>Laurus nobilis</i>
Black Caraway (Russian Caraway, Black Cumin)	Seed	<i>Nigella sativa</i>
Camomile, English or Roman	Flower	<i>Anthemis nobilis</i> L.
Camomile, German or Hungarian	Flower	<i>Matricaria chamomilla</i> L.
Capsicums	Fruit	<i>Capsicum</i> spp.
Caraway Seed	Seed	<i>Carum carvi</i> Maton.
Cardamom <sup>1</sup>	Fruit	<i>Elettaria cardamomum</i>
Cassia/Cinnamon	Bark	<i>Cinnamomum</i> spp.
Celery Seed	Seed	<i>Apium graveolens</i>
Chervil	Leaf	<i>Anthriscus cerefolium</i>

Chives	Leaf	<i>Allium schoenoprasum</i>
Cilantro (Coriander Leaf)	Leaf	<i>Coriandrum sativum</i>
Cinnamon/Cassia	Bark	<i>Cinnamomum</i> spp.
Cloves	Bud	<i>Syzygium aromaticum</i>
Coriander Seed	Seed	<i>Coriandrum sativum</i>
Cumin Seed (Cummin)	Seed	<i>Cuminum cyminum</i>
Dill Seed	Seed	<i>Anethum graveolens</i> / <i>Anethum sowa</i>
Dill Weed	Leaf	<i>Anethum graveolens</i> / <i>Anethum sowa</i>
Fennel Seed	Seed	<i>Foeniculum vulgare</i>
Fenugreek Seed (Foenugreek Seed)	Seed	<i>Trigonella foenum-graecum</i>
Galangal	Root	<i>Alpinia officinarum</i> Hance
Ginger	Root	<i>Zingiber officinale</i>
Horseradish	Root	<i>Armoracia lapathifolia</i> Gilib.
Juniper	Berry	<i>Juniperus communis</i>
Lavender	Flower	<i>Lavandula officinalis</i> Chaix.
Mace	Aril	<i>Myristica fragrans</i>
Marjoram Leaves	Leaf	<i>Majorana hortensis</i> Moench
Mustard Seed	Seed	<i>Brassica juncea</i> / <i>B. hirta</i> / <i>B. nigra</i>
Nutmeg	Seed	<i>Myristica fragrans</i>
Oregano Leaves	Leaf	<i>Origanum vulgare</i> / <i>Lippa</i> spp.
Paprika	Fruit	<i>Capsicum</i> spp.
Parsley (Dehydrated Parsley, Flakes)	Leaf	<i>Petroselinum crispum</i>
Black Pepper	Berry	<i>Piper nigrum</i>
White Pepper	Berry	<i>Piper nigrum</i>
Green Peppercorns	Berry	<i>Piper nigrum</i>
Pink Peppercorns <sup>2</sup>	Berry	<i>Schinus terebinthifolius</i>
Peppermint Leaves (Peppermint Flakes)	Leaf	<i>Mentha piperita</i>
Poppy Seed	Seed	<i>Papaver somniferum</i>

Rosemary Leaves	Leaf	Rosmarinus officinalis
Sage Leaves	Leaf	Salvia officinalis/Salvia trilobal
Savory Leaves	Leaf	Satureia montana/Satureia hortensis
Sesame Seed <sup>1</sup>	Seed	Sesamum indicum
Spearmint Leaves (Spearmint Flakes)	Leaf	Mentha spicata
Tarragon Leaves	Leaf	Artemisia dracunculus
Thyme Leaves	Leaf	Thymus vulgaris/Thymus serpyllum/Thymus satureioides
Vanilla Bean	Fruit	Vanilla planifolia/Vanilla tahitensis Moore

### **Dehydrated Vegetables Used As Spices**

Because, in addition to their use as spices (e.g. granulated or powdered onion and garlic), these items are traditionally regarded as foods, they shall be declared by common or usual name consistent with 21 CFR Sec. 101.22(a)(2):

COMMON OR USUAL NAME(s)	PART OF PLANT	BOTANICAL NAME(s) OF PLANT SOURCE(s)
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Garlic	Bulb	Allium sativum
Onion	Bulb	Allium cepa

### **Spices Used As Color Additives**

Consistent with 21 CFR Sec. 101.22(a)(2), the following spices, which can be used to impart color as well as flavor, shall be declared as “spice and coloring” or declared individually by common or usual name:

COMMON OR USUAL NAME(s)	PART OF PLANT	BOTANICAL NAME(s) OF PLANT SOURCE(s)
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Annatto Seed	Seed	Bixa orellana
Paprika	Fruit	Capsicum spp.
Saffron	Stigma	Crocus sativus
Turmeric	Root	Curcuma longa

FOOTNOTES:

<sup>1</sup>Must be listed by specific form (i.e., natural or hulled).

<sup>2</sup>Spice companies should be aware that pink peppercorns are in the same botanical family as cashew and pistachio. The Food Allergy Research and Resource Program (FARRP) is looking to investigate the risk to determine if precautionary labeling for individuals with tree nut allergies is warranted.

**Revised April 2016**

## APPENDIX III: Existing Crop Group 19 Tolerances

Non-exclusive list of current pesticide tolerances listed in 40CFR as of October 25, 2019. This list is limited to the herbs and/or spices group and does not include any other tolerances applicable to any food.

### Crop Group 19: Herbs and spices

§180.124 Methyl bromide, 35ppm

§180.145 Fluorine compounds, postharvest, 70ppm

§180.151(1) Ethylene oxide, dried except basil, 7ppm

§180.151(2) Ethylene chlorohydrin 2-chloroethanol, dried except basil, 940ppm

§180.293 Endothall, 5.0ppm

§180.491(1) Propylene oxide, dried, 300ppm

§180.491(2) propylene chlorohydrin, dried except basil, 1500ppm

§180.515 Carfentrazone-ethyl, 2.0ppm

§180.575 Sulfuryl fluoride, postharvest, 0.5ppm

§180.123 Inorganic bromide residues resulting from fumigation with methyl bromide, in or on egg, dried and herb, processed and spice, 400ppm

### Crop Group 19a: Herbs

§180.364 Glyphosate .2ppm

§180.442 Bifenthrin 0.05ppm

§180.449 Avermectin B1 and its delta-8,9-isomer, except chive, 0.030ppm

§180.458 Clethodim 12.0ppm

§180.495 Spinosad 22ppm

§180.505 Emamectin 0.4ppm

§180.507 Azoxystrobin 260ppm

§180.510 Pyriproxyfen 100ppm

§180.516 Fludioxonil 65ppm

§180.532 Cyprodinil, except parsley 15.0ppm

§180.544 Methoxyfenozide, except chive, fresh leaves (unclear if fresh leaves applies to chive or to the entire group, 400ppm

§180.572 Bifenazate, except chervil and chive, 300ppm

§180.582 Pyraclostrobin 40ppm

§180.589 Boscalid 150ppm

§180.601 Cyazofamid 90ppm

§180.628 Chlorantraniliprole 90ppm

§180.635 Spinetoram 22ppm

§180.661 Fluopyram 40ppm

### Crop Group 19b: Spices

§180.364 Glyphosate 7ppm

§180.495 Spinosad, except black pepper, 1.7ppm

§180.507 Azoxystrobin, except black pepper, 38ppm

§180.516 Fludioxonil .02ppm

- §180.544 Methoxyfenozide (indirect or inadvertent residue), 4.5ppm
- §180.628 Chlorantraniliprole 90ppm
- §180.635 Spinetoram, except black pepper, 1.7ppm