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"ANNEX I"
APPROVAL REGISTRY OF REGULATED ARTICLES
FOR DIRECT USE AS FOOD AND FEED AND FOR PROCESSING
(As of May 9, 2019)

Transformation Event	Introduced Trait and Gene	Date Approved/ Renewed	Safety Assessment		Technology Developer	Other Countries with Similar Approval
			Food	Feed		
1. Corn GA21*	Contains modified <i>epsps</i> gene from corn which confers tolerance to herbicides	Nov. 24, 2014	✓	✓	Syngenta Philippines	Argentina, Brazil, Canada, Japan, Paraguay, South Africa, United States of America, Uruguay, Vietnam
2. Soybean MON87705	Contains <i>cp4 epsps</i> expression cassette as a selectable marker and a partial <i>fatb1-A</i> and <i>fad2-1A</i> suppression cassette from <i>Agrobacterium sp.</i> strain CP4 controlling the fatty acid profile in soybean seed	November 28, 2014	✓	✓	Monsanto Philippines	Australia (food), Canada, Colombia, European Union, Indonesia (food), Japan, Mexico (food), New Zealand (food), Singapore, South Korea, Taiwan (food), Turkey (feed), United States of America, Vietnam
3. Corn MON87427	Contains the <i>cp4 epsps</i> gene derived from <i>Agrobacterium sp.</i> strain CP4 conferring tolerance to glyphosate herbicide	November 28, 2014	✓	✓	Monsanto Philippines	Australia (food), Brazil, Canada, Colombia (food), Indonesia (food), Japan, Mexico (food), New Zealand (food), Singapore (Food), South Korea (food), Taiwan (food), United States of America, Vietnam
4. Corn NK603	Contains <i>cp4epsps</i> coding sequence from <i>Agrobacterium sp.</i> CP4 strain which confers tolerance to the Roundup family of agricultural herbicides	Mar. 16, 2015	✓	✓	Monsanto Philippines	Argentina, Brazil, Canada, Colombia, Cuba, Honduras, Japan, Paraguay, South Africa, United States of America, Uruguay, Vietnam
5. Corn Bt 11*	Contains the <i>cry1Ab</i> gene from <i>Bacillus thuringiensis</i> and <i>pat</i> gene from <i>Streptomyces viridochromogenes</i> which confers resistance to corn borer and tolerance to herbicide, respectively	Apr. 23, 2015	✓	✓	Syngenta Philippines	Argentina, Brazil, Canada, Japan, Paraguay, South Africa, United States of America, Uruguay

6. Canola MON88302	Contains cp4 epsps from <i>Agrobacterium tumefaciens</i> which decreases binding affinity for glyphosate, thereby conferring increased tolerance to glyphosate herbicide	April 24, 2015	✓	✓	Monsanto Philippines	Australia, Canada, European Union, Japan, Mexico (food), New Zealand, Singapore (food), South Korea (feed), United States of America
7. Soybean MON87769	Contains Pj.D6D gene from <i>Primula juliae</i> and <i>Nc.Fad3</i> from <i>Neurospora crassa</i> - both desaturates certain endogenous fatty acids resulting in the production of stearidonic acid (SDA), an omega-3 fatty acid, and cp4 epsps gene from <i>Agrobacterium tumefaciens</i> which decreases binding affinity for glyphosate, thereby conferring increased tolerance to glyphosate herbicide	April 24, 2015	✓	✓	Monsanto Philippines	Australia (food), Canada, Colombia, European Union, Indonesia (food), Japan (food), Mexico (food), New Zealand (food), Singapore (food), South Korea, Taiwan (food), United States of America, Vietnam
8. Corn 5307	Contains cry1Ab gene from <i>Bacillus thuringiensis var kurstaki</i> which produces crystal protein effective as insecticide against specific group of insect, pat gene from <i>Streptomyces virido-chromogenes</i> which produces the enzyme, phosphinotricin-N-acetyl transferase that detoxifies glufosinate ammonium, vip3Aa20 gene from <i>Bacillus thuringiensis</i> which encodes a vegetative insecticidal protein controlling several lepidopteran pest, pmi gene from <i>E. coli</i> which encodes the PMI protein for use as a selectable marker, cry1F gene from <i>Bacillus thuringiensis var. aizawai</i> strain PS811 which confers resistance to lepidopteran pests and epsps gene from <i>Zea mays</i> which confers tolerance to herbicides	June 11, 2015	✓	✓	Syngenta Philippines	Australia (food), Brazil, Canada, China, Japan, Malaysia, Mexico (food), New Zealand (food), Russian Federation, South Korea (feed), Taiwan (food), United States America, Vietnam
9. Sugarbeet H7-1	Contains cp4epsps coding sequence from <i>Agrobacterium</i> sp. Strain, CP4 which confers tolerance to glyphosate herbicide	July 28, 2015	✓	✓	Monsanto Philippines and KWS SAAT AG	Australia (food), Canada, China, Columbia, European Union, Japan, Mexico (food), New Zealand (food), Russian Federation (food) South Korea (food), Taiwan (food), United States of America
10. Cotton COT102	Contains vip3Aa19 from <i>Bacillus thuringiensis strain AB88</i> which confers resistance to feeding damage caused by lepidopteran insects by selectively damaging their midgut lining and aph4 from <i>Escherichia coli</i> which acts as selectable marker	September 9, 2015	✓	✓	Syngenta Philippines	Australia, Canada, China, Colombia (food), Japan, Mexico, New Zealand (food), South Korea, Taiwan (food), United States of America

11. Soybean FG72	Contains <i>2mepsps</i> from <i>Zea mays</i> which decreases binding affinity for glyphosate, thereby increasing tolerance to glyphosate herbicide and <i>hppdPF W336</i> from <i>Pseudomonas fluorescens</i> strain A32 which confers tolerance to HPPD-inhibiting herbicides by reducing the specificity for the herbicide's bioactive constituent	September 9, 2015	✓	✓	Bayer CropScience	Australia (food), Brazil, Canada, Colombia (food), European Union, Japan, Malaysia, Mexico (food), New Zealand (food), Russian Federation, South Korea, Taiwan (food), United States of America
12. Soybean CV127	Contains gene <i>csr-2</i> from <i>Arabidopsis thaliana</i> which encodes the imidazole herbicide tolerant acetohydroxyacid synthase (AtAHAS)	Oct. 29, 2015	✓	✓	BASF Philippines, Inc.	Argentina, Australia (food), Brazil, Canada, China, Colombia, European Union, India, Japan, Malaysia, Mexico (food), New Zealand (food), Russian Federation, South Africa, South Korea, Taiwan (food), Turkey (feed), United States of America
13. Corn MON89034*	Contains the <i>cry1A.105</i> and <i>cry2Ab2</i> genes from <i>Bacillus thuringiensis</i> that are active against lepidopteran insects	Nov. 19, 2015	✓	✓	Monsanto Philippines	Argentina, Brazil, Canada, Honduras, Japan, Paraguay, South Africa, United States of America, Vietnam
14. Cotton MON88913	Contains <i>cp4epsps</i> coding sequence from <i>Agrobacterium</i> sp strain, CP4 which confers tolerance to the Roundup family of agricultural herbicides	Nov. 26, 2015	✓	✓	Monsanto Philippines	Australia (food), Brazil, Canada, China, Colombia, European Union, Japan, Mexico (food), New Zealand (food), Singapore, South Korea, Taiwan (food), United States of America
15. Soybean A5547-127	Contains a synthetic phosphinothricin acetyltransferase (<i>pat</i> gene) from <i>Streptomyces viridochromogenes</i> expressing tolerance to glufosinate ammonium herbicide	February 1, 2017	✓	✓	Bayer CropScience, Inc.	Argentina, Australia (food), Brazil, Canada, China, Colombia (feed), European Union, India, Japan, Malaysia, Mexico (food), New Zealand (food), Russian Federation, Singapore, South Korea, Taiwan (food), Turkey (feed), United States of America, Vietnam
16. Corn MON88017	Contains <i>cry3Bb1</i> gene from <i>Bacillus thuringiensis</i> which confers resistance to the corn rootworm, <i>Diabrotica</i> spp and <i>cp4epsps</i> gene from <i>Agrobacterium</i> sp. which confers tolerance to glyphosate	January 4, 2018	✓	✓	Monsanto Philippines	Argentina, Australia (food), Brazil, Canada, China, Colombia, European Union, Japan, Malaysia, Mexico (food), New Zealand (food), Russian Federation, Singapore, South Africa, South Korea, Taiwan (food), Thailand (food), Turkey (feed), United States of America, Vietnam
17. Corn MON810	Contains <i>cry1A(b)</i> gene from <i>Bacillus thuringiensis</i> var. <i>kurstaki</i>	February 23, 2018	✓	✓	Monsanto Philippines	Argentina, Australia (food), Brazil, Canada, China, Colombia, European Union, Japan, Malaysia, Mexico

	which confers resistance to corn borer					(food), New Zealand (food), Paraguay, Russian Federation, Singapore, South Africa, South Korea Switzerland, Taiwan (food), Turkey (feed), United States of America, Uruguay, Vietnam
18. Corn MIR604	Contains modified cry3A (mCry3A) from <i>Bacillus thuringiensis</i> subsp. <i>tenebriones</i> which confers resistance to corn rootworm	March 6, 2018	✓	✓	Syngenta Philippines	Australia, Belarus/Kazakstan, Indonesia, Taiwan (Food); Colombia, European Union, Mexico, Russia (Food and Feed); Korea (Food and Environment); Argentina, Canada, Japan, USA (Food, Feed and Environment); China (Food, Feed and Processing)
19. Corn DAS59122	Contains <i>cry34Ab1</i> and <i>cry35Ab1</i> from <i>Bacillus thuringiensis</i> , which confers resistance to certain coleopteran pests such as corn rootworm, <i>Diabrotica</i> sp. and the <i>pat</i> gene from <i>Streptomyces viridochromogenes</i> which provides tolerance to glufosinateammonium herbicides	April 4, 2018	✓	✓	DuPont Pioneer	Australia, Canada, China, Colombia, EU, Japan, Korea, Malaysia, Mexico, Philippines, Singapore, South Africa, Taiwan, United States (Food, Feed)
20. Soybean MON87701	Contains <i>cry1Ac</i> gene from <i>Bacillus thuringiensis</i> (<i>Bt</i>) subsp. <i>kurstaki</i> , which confers resistance to lepidopteran pests: velvetbean caterpillar (<i>Anticarsia gemmatalis</i>), soybean looper (<i>Pseudoplusia includens</i>), soybean axil borer (<i>Epinotia aporema</i>), and sunflower looper (<i>Rachiplusia nu</i>).	June 22, 2018	✓	✓	Monsanto Philippines	Mexico, Russian Federation, Taiwan, Thailand, Indonesia (Food); Turkey (Feed); Philippines, China, EU, Singapore, Vietnam (Food and Feed); Japan (Cultivation); Argentina, Canada, USA (Food and Feed, and Cultivation)
21. Soybean MON89788	Contains <i>cp4epsps</i> coding sequence from <i>Agrobacterium</i> sp. Strain, CP4 which confers resistance tolerance to Round up family of agricultural herbicides	June 22, 2018	✓	✓	Monsanto Philippines	Australia/New Zealand (Food, 2008); Canada (Food, 2007; Feed and Environment, 2007), China (Food and Feed, 2014); Colombia (Food, 2010; Feed, 2010); European Union (Food, Feed and Processing, 2008); India (Food, 2010); Indonesia (Food, 2011); Japan (Food, 2007; Feed, 2007; Environment, 2008); Korea (Food, 2009; Feed, 2009); Malaysia (Food, Feed and Processing, 2012); Mexico (Food and Feed, 2008); Russian Federation (Food, 2010; Feed, 2015); Singapore (Food and Feed, 2010); South Africa (Food and Feed 2013); Taiwan (Food, 2012; Feed, 2017); US (Food and Feed, 2007; Environment, 2007); Vietnam (Food and Feed, 2014)

22. Soybean SYHT0H2	Contains <i>pat</i> gene from <i>Streptomyces viridochromogenes</i> which encodes the phosphinothricin (PAT) enzyme which when expressed in plants, acetylates L-phosphinothricin, the active form of the glufosinate-ammonium herbicide, resulting in post-emergence tolerance. The second gene, the <i>avhppd-03</i> gene from <i>Avena sativa</i> , encodes the p-hydroxyphenylpyruvate dioxygenase enzyme (AvHPPD-03). AvHPPD-03 has reduced binding affinity to certain HPPD-inhibiting herbicides compared to native soybean HPPD. When expressed in soybean, AvHPPD-03 results in pre- and post-emergence tolerance to HPPD-inhibiting herbicides, such as mesotrione.	June 22, 2018	✓	✓	Syngenta Philippines	United States (cultivation, food, feed, processing), Canada (cultivation, food, feed), Colombia (feed), Russia (food and feed), Belarus (food), Kazakhstan (food), South Africa (food, feed, processing), Mexico (food and feed), Australia/New Zealand (food), Korea (food, feed, environment), Japan (food), and Taiwan (food)
23. Corn 3272	Contains the amy797E gene from <i>Thermococcales</i> spp. which produces the alpha-amylase enzyme and the pmi gene from <i>Escheria coli</i> which encodes the enzyme phosphomannose isomerase and allows the positive selection for the recovery of the transformed plants	June 24, 2018	✓	✓	Syngenta Philippines	United States (cultivation, food, feed, and processing), Australia/New Zealand (food), Brazil (food and feed), Canada (food, feed, and cultivation), China (food, feed, and processing), Colombia (food and feed), Indonesia (food), Japan (food, feed, and environment), Korea (food, feed and environment), Malaysia (food, feed, and processing), Mexico (food, feed, and processing), Philippines (food, feed, and processing), Russian Federation (food and feed), and Taiwan (food and feed)
24. Corn MZHG0JG	Contains the transgene mepsps-0 from <i>Zea mays</i> , which encodes a modified 5-enol pyruvylshikimate-3-phosphate enzyme (mEPSPS). It also contains <i>pat</i> gene from <i>Streptomyces viridochromogenes</i> which encodes the enzyme phosphinothricin acetyltransferase (PAT). The enzyme mEPSPS was introduced specifically to confer tolerance to the herbicide glyphosate while PAT confers tolerance to glufosinate-ammonium herbicides.	August 29, 2018	✓	✓	Syngenta Philippines	United States (Cultivation, Food, Feed, and Processing), Canada (Cultivation, Food, and Feed), Australia and New Zealand (Food), South Africa (Food, Feed, and Processing)

25. Soybean MON87751	Contains the cryIA.105 and cry2Ab2 genes from <i>Bacillus thuringiensis</i> subsp. <i>kumamotoensis</i> which encode CryIA.105 and Cry2Ab2 proteins that provide protection from feeding damage caused by targeted lepidopteran insect pests. Cry1A.105 and Cry2Ab2 are also known to be active against lepidopteran soybean pests.	September 5, 2018	✓	✓	Syngenta Philippines	Australia/New Zealand (Food, 2016); Canada (Food, 2014; Feed and Environment, 2014), Korea (Food, 2016; Feed, 2018), Mexico (Food and Feed, 2016), Taiwan (Food, 2016), US (Food and Feed, 2015; Environment, 2014; Environment (EPA), 2015)
26. Cotton GHB614	Contains <i>2mepsps</i> from <i>Zea mays</i> which confers tolerance to herbicides	October 22, 2018	✓	✓	Bayer CropScience	Argentina, Australia/New Zealand, Brazil, Canada, China, Colombia, European Union, Japan, Korea, Mexico, Taiwan and the United States.
27. LLCotton25	Contains <i>bar</i> gene from <i>Streptomyces hygroscopicus</i> which expresses the phosphinothricin acetyltransferase (PAT) protein which specifically acetylates glufosinate ammonium and thereby detoxifies the herbicide, conferring LLCotton25 tolerance to the herbicide glufosinate ammonium.	October 22, 2018	✓	✓	Bayer CropScience	Argentina, Australia/New Zealand, Brazil, Canada, China, Colombia, European Union, Japan, Korea, Mexico, South Africa, Taiwan and the United States

28. Soybean 40-3-2	Contains the cp4 epsps gene which encodes the CP4 EPSPS protein that confers tolerance to glyphosate, the active ingredient in Roundup® agricultural herbicides.	October 22, 2018	✓	✓	Monsanto Philippines Inc.	Argentina (Food, Feed and Environment, 1996); Australia/New Zealand (Food, 2000); Bolivia (Food, Feed, Environment 2005); Brazil (Food, Feed and Environment, 1998); Canada (Food, 1996; Feed and Environment, 1995); China (Food, Feed and Processing 2015*); Colombia (Food, 2005; Feed, 2007; Environment, 2010); European Union (Food, Feed and Processing, 2012*); India (Food, 2007); Indonesia (Food, 2011); Japan (Food, 2001*; Feed, 2003*; Environment, 2005*); Korea (Food, 2010*; Feed, 2008*); Malaysia (Food, Feed and Processing, 2010*); Mexico (Food and Feed, 1996;); Paraguay (Food, Feed, Environment, 2004); Philippines (Food, Feed and Processing, 2013*); Russian Federation (Food, 2011*; Feed, 2013*); Singapore (Food and Feed, 2010); South Africa (Food, Feed and Environment, 2001); Taiwan (Food, 2017*; Feed, 2017*); US (Food and Feed, 1995; Environment, 1994); Uruguay (Environment, 1996); Vietnam (Food and Feed, 2015)
29. Corn MIR162*	Contains two novel genes: <i>vip3Aa20</i> gene from <i>Bacillus thuringiensis</i> which confers resistance to lepidopteran pests and <i>pmi</i> gene from <i>Escherichia coli</i> encoding the enzyme phosphomannose isomerase present as a selectable marker	October 31, 2018	✓	✓	Syngenta Philippines	Argentina, Australia (food), Brazil, Canada, China, /Colombia, European Union, Indonesia (food), Japan, Malaysia, Mexico (food), New Zealand (food), Russian Federation, Singapore (food), South Africa, South Korea (feed), Taiwan (food), Turkey (feed), United States of America, Vietnam

34. Soybean 305423	<p>Introduced <i>gm-fad2-1</i> gene fragment provides seed with increased levels of monounsaturated (oleic) fatty acid and decreased levels of polyunsaturated fatty acids (linoleic and linolenic) and to a lesser extent, palmitic acid, via a mechanism of gene silencing.</p> <p>Introduced <i>gm-hra</i> gene encodes the GM-HRA protein conferring tolerance to ALS-inhibiting herbicides; it was used solely as a selectable marker, and does not provide a commercial level of herbicide tolerance.</p>	November 16, 2018	✓	✓	DuPont (Pioneer Hi-Bred Philippines)	Australia (Food), Canada, China, European Union, Japan, Malaysia, Mexico (food), New Zealand (food), Singapore, South Africa, South Korea (feed), Taiwan (food), United States of America
30. Soybean MON87411	<p>Contains the DvSnf7 suppression cassette that expresses an inverted repeat sequence designed to match the sequence of western corn rootworm (WCR; <i>Diabrotica virgifera virgifera</i>) and down regulate the targeted DvSnf7 gene leading to corn rootworm (CRW) (<i>Diabrotica</i> spp.) mortality; and a cry3Bb1 gene which encodes Cry3Bb1 protein to protect against CRW larval feeding. MON 87411 also contains the cp4epsps gene which encodes the CP4 EPSPS protein that confers tolerance to glyphosate, the active ingredient in Roundup® agricultural herbicides.</p>	November 19, 2018	✓	✓	Monsanto Philippines	Australia/New Zealand (Food, 2015); Canada (Food, Feed and Environment, 2015), Colombia (Food and Feed, 2016), Japan (Food, Feed and Environment, 2016), Korea (Food and Feed, 2016), Mexico (Food and Feed, 2015), Taiwan (Food, 2015), US (Food and Feed, 2014; Environment, 2015)
31. Cotton GHB119	<p>Contains bar gene from <i>Streptomyces hygrosopicus</i> which eliminates herbicidal activity of glufosinate (phosphinothricin) herbicides by acetylation, and Cry2Ae, encoded by the cry2Ae gene from the soil bacterium <i>Bacillus thuringiensis</i> subsp. <i>Dakota</i> which confers resistance to lepidopteran insects</p>	November 19, 2018	✓	✓	BASF Philippines	Australia/New Zealand, Brazil, Canada, China, Japan, Korea, Mexico, Taiwan and the United States

32. Cotton T304-40	Contains cry1Ab gene from <i>Bacillus thuringiensis</i> which confers resistance to lepidopteran insects and bar gene from <i>Streptomyces hygroscopicus</i> which confers tolerance to herbicide	November 19, 2018	✓	✓	BASF Philippines	Australia/New Zealand, Brazil, Canada, China, Japan, Korea, Mexico, Taiwan and the United States
33. Oilseed rape Ms8	Contains a male sterility gene <i>barnase</i> from <i>Bacillus amyloliquefaciens</i> which encodes for the ribonuclease enzyme Barnase. Barnase, when expressed in the tapetal cells of the anthers during pollen development, results in lack of viable pollen and consequently to male sterility in MS8. It also contains the <i>bar</i> gene from <i>Streptomyces hygroscopicus</i> which encodes for phosphinothricin acetyltransferase (PAT) conferring tolerance to herbicides containing glufosinate-ammonium	November 21, 2018	✓	✓	BASF Philippines	Australia/New Zealand, Canada, China, European Union, India, Japan, Korea, Malaysia, Mexico, South Africa, Taiwan and the United States
34. Oilseed Rape Rf3	Contains a fertility restorer gene <i>barstar</i> from <i>Bacillus amyloliquefaciens</i> which encodes for the ribonuclease inhibitor Barstar. Barstar can form a one-to-one complex with Barnase in a male sterile line so the hybrid progeny will develop normally and rendered male fertile. RF3 oilseed rape also contains the <i>bar</i> gene from <i>Streptomyces hygroscopicus</i> which encodes for phosphinothricin acetyltransferase (PAT) conferring tolerance to herbicides containing glufosinate-ammonium.	November 21, 2018	✓	✓	BASF Philippines	Australia/New Zealand, Canada, China, European Union, India, Japan, Korea, Malaysia, Mexico, South Africa, Taiwan and the United States

35. Soybean DAS44406-6	Contains three genes <i>aad-12</i> , <i>2mepsps</i> , and <i>pat</i> , which express the aryloxyalkanoate dioxygenase-12 (AAD-12), double mutant 5-enolpyruvylshikimate-3-phosphate synthase (2mEPSPS), and phosphinothricin acetyltransferase (PAT) proteins, respectively. The newly introduced proteins provide tolerance to the herbicides 2,4-dichlorophenoxyacetic acid (2,4-D), glyphosate and glufosinate, respectively	February 21, 2019	✓	✓	Dow AgroSciences	U.S.A, Argentina, Australia, Brazil, New Zealand, Canada, Colombia, Japan, Mexico, South Korea, South Africa, and Taiwan,
36. Corn TC1507	Contains <i>cry1F</i> and <i>pat</i> genes which confer resistance to certain lepidopteran pests such as the Asiatic corn borer and pink borer (<i>Sesamia</i> spp) and tolerance to glufosinate herbicides respectively	February 21, 2019	✓	✓	Dow AgroSciences LLC and DuPont (Pioneer Hi-Bred International Inc.)	Argentina, Australia (food), Brazil, Canada, China, Colombia, European Union, Indonesia, Japan, Malaysia, Mexico (food), New Zealand (food), Panama (food), Paraguay, Singapore, South Africa, South Korea, Taiwan (food), Turkey (feed), United States of America, Uruguay, Vietnam
37. Soybean DAS68416-4	Contains <i>aad-12</i> gene from <i>Delftia acidovorans</i> which confers tolerance to herbicides such as 2,4-dichlorophenoxyacetic acid (2,4-D) and <i>pat</i> gene from <i>Streptomyces viridochromogenes</i> providing tolerance to glufosinate and used as a selectable marker during the soybean transformation	March 21, 2019	✓	✓	Dow AgroSciences	U.S., Australia, Brazil, Canada, New Zealand, Colombia, Japan, Korea, Mexico, and Taiwan

*with valid biosafety permit for commercial propagation

