TECHNICAL REPORT

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Pesticide Residue Intake Model- EFSA PRIMo revision 3.1 (update of EFSA PRIMo revision 3)

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Abstract

In January 2018, the guidance document on the use of EFSA PRIMo revision 3 was published in the EFSA Journal. Following feedback from users, the risk assessment tool has been updated, including editorial modifications and corrections of input values used for the calculation of the exposure assessments. This technical report summarises the modifications introduced in EFSA PRIMo revision 3.1.

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Summary

The European Food Safety Authority Pesticide Residue Intake Model (EFSA PRIMo) revision 3 was published in January 2018. In revision 3.1 of the model the following modifications have been introduced:

- A new spreadsheet was added that will allow converting the MRLs derived from the database of the European Commission in a format compatible with the EFSA PRIMo;
- Correction of a number of large portion consumption data (LP) reported by a Member State;
- Correction of unit weight data reported by a Member State;
- Correction of TMDI calculation (supplementary information for risk managers);
- Correction of the calculation of the threshold residue in processed products (IESTI case 2a and 2b);
- Editorial modifications.

For getting an overview how the modifications impact the results of the risk assessment, an analysis was performed, comparing the results obtained with PRIMo revision 3.1 and PRIMo revision 3. While for the chronic risk assessment the new revision of PRIMo will not impact on the results, the acute risk assessment differs for a number of commodities.

Table of contents

1. Introduction

In January 2018, the guidance document on the use of EFSA PRIMo revision 3 was published in the EFSA Journal (EFSA, 2018). Following feedback from users, the risk assessment tool has been updated, including editorial modifications and corrections of input values used for the calculation of the acute and chronic exposure assessments.

2. Modifications in EFSA PRIMo revision 3.1

2.1. New Spreadsheet – MRL import

In order to facilitate the data management in PRIMo rev. 3, users proposed to implement an option that would allow the import of MRLs derived from the EU pesticides database managed by the European Commission[1] automatically in PRIMo rev. 3.1 without having the need to manually convert the MRLs to a format that is compatible with PRIMo.

For this purpose, a new module was included in PRIMo revision 3.1. The MRLs derived from the EU pesticides database have to be copied in the new spreadsheet 'MRL import" and, by using a macro, the values are transferred to the respective fields in the spreadsheet 'input_values'. The following steps need to be applied:

- Select the spreadsheet 'MRL import'.
- Make sure that the relevant sections of the spreadsheet are empty and data from previous sessions are removed. To guarantee a proper functioning of the tool, it is necessary to start from a blank template. It is therefore recommended to use the reset function, which can be activated by clicking on the right blue button on top of the spreadsheet ('Reset (delete MRLs and LOQs from import spreadsheet)'.
- Select the MRLs of interest in the EU pesticides database, using the option 'Search pesticide residues', and follow the steps 1 to 4:
  - (1) Select pesticide residue,
  - (2) Select 'All' products,
  - (3) Select 'Current MRLs',
  - (4) Click 'Display' and click the box 'Export the results to Excel'.
- If the Excel file with the selected MRLs is opened with 'protected view', enable editing the file by clicking on the respective button in the yellow line on top of the file.
- Copy the MRLs including the header which contains the residue definition in the green array of the MRL import spreadsheet, using the function 'Paste Values' (Ctrl+Alt+V). With this, the green cells in the spreadsheet 'MRL import' are filled with the MRLs established under Regulation (EC) No 396/2005.
- To transfer the MRLs to the spreadsheet 'input_values', click on the button 'Copy MRLs to spreadsheet 'input_values" which can be found on top of the 'MRL import' spreadsheet.
- If a cell contains a value that cannot be processed automatically (e.g. because of an unexpected format, unexpected content of certain cells), you will be prompted by a message box to correct or remove the MRL value.
  Click 'OK' and correct the value (e.g. replacing certain text strings with a numerical value or by deleting the content).
  Click again the button 'Copy MRLs to spreadsheet input_values'.
- The macro will perform the following actions:
  - Copy the MRL values to column E of the spreadsheet 'input_values'. Copy the label for LOQs in column F of the spreadsheet 'input_values'.

[1] EU Pesticides database, available under http://ec.europa.eu/food/plant/pesticides/eu-pesticides-database/public/?event=pesticide.residue.selection&language=EN

- Copy the name of the active substance (or the respective residue definition) to cell D3.
- If the residue definition inserted in the header (cell D3) contains the label (F), the setting in cell L7 is changed to 'fat soluble'.

It is recommended to describe the source of the MRL (MRL Regulation) in column D (e.g. existing MRL Reg. (EU) No 1317/2013).

For crops where an amendment of the existing MRL is assessed/proposed, the existing MRL should be replaced in column E and column D should be updated accordingly.

Further details on the handling of the file can be found in the previously published guidance document (EFSA, 2018).

2.2. Protection of the worksheets

In general, the EFSA PRIMo tool was designed to be a transparent calculation tool which should allow interested users to read the implemented algorithms. However, to avoid unintended modifications of the input values, functions and formulas, the spreadsheets of the Excel workbook were protected (no password is required to unprotect the spreadsheets). Due to this protection, the Excel function to expand or collapse columns or rows, does not work. To overcome this problem, a small macro was introduced in EFSA PRIMo rev. 3 which can be activated by pressing the button 'Allow expand/collapse function (+)' which can be found in the spreadsheet 'input_values'. However, this macro removed the protection of the sheets in the workbook. In the revised version of the macro the sheet protection is re-established, ensuring that only those parts of the spreadsheets are not modified unintentionally to guarantee that the calculations are performed properly.

Furthermore, the macro on generating the table 'Summary_input_values' did not run properly because the worksheet protection was wrongly set. This bug has been addressed as well, by modifying the worksheet protection.

2.3. Editorial modifications

Editorial modifications introduced in revision 3.1 are outlined in the table below.

Table 1: Editorial modifications PRIMo revision 3.1

Cell reference	Modification
Spreadsheet 'Input values for dietary risk assessment'	
Cell F5	Editorial modifications to describe the type of information that should be entered in the respective cell.
Cells I326:J326, I340:J340, I347:J347, I354:J354, I361:J361 and **I368:J368**	The messages providing additional clarifications for the cells where the STMR/HR values for muscle/meat have to be inserted have been modified.
Cells J375:J379 (Milk, all species)	Cells for reporting the HR-RAC have been shaded in grey, since according to the internationally agreed methodology the calculations of the chronic and the acute exposure should be performed with the STMR. Thus, there is no need to insert HR values for milk.
Cell C447	The description of the processed food commodity has been modified to 'Cassava roots/boiled' to make clear that a refined intake calculation can be performed using processing factor reflecting boiling.
Cell C472	The description of the processed food commodity has been modified to 'Kales/boiled' to make clear that a refined intake calculation can be performed using processing factor reflecting boiling.
Cell C475	The description of the processed food commodity has been modified to 'Spinaches/frozen; boiled' to make clear that a refined intake calculation can be performed using processing factor reflecting boiling.

Cell reference	Modification
Cell C498	The description of the processed food commodity has been modified to 'Rapeseeds/oils' to make clear that a refined intake calculation can be performed using processing factor reflecting oil production.
Cell C502, C503	A comment was added to clarify that the entry most likely refers to the oil of the respective raw agricultural commodities and therefore refined intake calculation can be performed using processing factor reflecting oil production.
PRIMo revision 3: row 428	In the section on processed products, blueberries/processed (not specified) has been removed; without detailed information which type of processing is relevant, refined intake calculations using a processing factor cannot be performed. The consumption reported for unprocessed blueberries is expected to cover the consumption of processed blueberries as well.
Spreadsheet 'Results'	
Cells F57:I308	In the section 'Acute risk assessment/children, Acute risk assessment/adults/general population' the cell formatting which highlights results where the IESTI calculation is greater than 100% has been corrected.
Cells E63, I63, M63 and **Q63**	The formula calculating the number of commodities in the 4 types of calculations (acute risk assessment children, acute risk assessment adults, IESTI new children and IESTI new adults) where the exposure exceeded the ARfD was modified.
Cell E226 and **M25**	The formula for calculating the total number of commodities has been modified: the result presented in this cell gives the total number of different commodities for which an exceedance of the ARfD was identified, taking into account the calculations for children and adults.
Cell J57:Q308	The results for IESTI new calculations for processed products have been included in the Results spreadsheet (in 'Normal mode' calculation for all commodities where input values were entered; in 'Refined mode calculation' or with the setting 'Show results of IESTI calculation only for crops with GAPs under assessment' for crops labelled as 'GAP under assessment').
Spreadsheet 'chronic_intake_assessment'	
Cells Q245, R245 and **AC245**	A comment was introduced that explains that detailed consumption data are available for different processed products derived from maize (see also section 2.8).

2.4. Spreadsheet providing supplementing results for chronic exposure assessments

The section presenting the TMDI calculations were updated, making reference to the results that are derived where the chronic exposure calculation is performed with the MRL (instead of the STMR).

2.5. Revised consumption data

EFSA was informed by certain Member States that the previously reported consumption data should be revised. Thus, the modifications summarised in Table 2 have been implemented.

Table 2: Modified consumption data introduced in PRIMo revision 3.1

Cell reference	Modification
Spreadsheets for acute exposure calculation for children ('acute_overview_children')	

Cell reference	Modification
Cell O14, Lemons	In revision 3 of the PRIMo tool, the consumption was recalculated to match with the result obtained with the German VELS model. However, with this recalculation, the large portion for a child of 16.15 kg body weight was unrealistically high (400 g lemons) and therefore it was decided to replace the large portion with the value reported in the German food survey in revision 3.1.
Cell O18, Mandarins	The previously reported consumption value (expressed as g/kg bw) was corrected by the data provider. The revised consumption value was introduced in PRIMo revision 3.1. The related information in column P (Percentile) and Q (MS critical diet) was updated accordingly.
Cell O49, Wine grapes	The large portion was corrected (UK 7-10 years).
Cell O57, Blueberries	See cell O18
Cell O58, Cranberries	See cell O18
Cell O107, Beetroots	See cell O18
Cell O180, Celery leaves	See cell O18
Cell O190, Beans (with pods)	See cell O18
Cell O192, Peas (with pods)	See cell O18
Cell O197, Asparagus	See cell O18
Cell O340, Sheep: Muscle/meat:	See cell O18
Cell O420 , Peaches/canned	See cell O18
Cell O437, Pineapples/canned	See cell O18
Cell O449, Turnips/boiled	See cell O18
Cell O450, Shallots/boiled	See cell O18
Cell O452, Tomatoes/sauce/puree	See cell O18
Cell O459, Head cabbages/canned	See cell O18
Cell O462, Spinaches/frozen; boiled	See cell O18
Cell O464, Witloof/boiled	See cell O18
Cell O468, Leeks/boiled	See cell O18
Cell O469, Rhubarbs/sauce/puree	See cell O18
Cell O476, Rapeseeds/oils	Consumption was corrected to be expressed as oil.
Cell O486, Maize/processed (not specified)	See cell O18, see also section 2.8.
Cell O500, Rooibos leaves/infusion	See cell O18
Cell O501, Valerian root/infusion	See cell O18
Spreadsheets for acute exposure calculation for adults ('acute_overview_adults')	
Cell O21, Almonds	The previously reported consumption value (expressed as g/kg bw) was corrected by the data provider. The revised consumption value was introduced in PRIMo revision 3.1. The related information in column P (Percentile) and Q (MS critical diet) was updated accordingly.
Cell O58, Cranberries	See cell O21

Cell reference	Modification
Cell O68, Dates	See cell O21
Cell O107, Beetroots	See cell O21
Cell O129, Aubergines	See cell O21
Cell O150 Brussels sprouts	See cell 021
Cell O180, Celery leaves	See cell O21
Cell O185, Basil and edible flowers	See cell O21
Cell O190, Beans (with pods)	By mistake, the consumption of beans with pods was deleted in PRIMo revision 3. This mistake was corrected in revision 3.1.
Cell O192, Peas (with pods)	See cell O21
Cell O193, Peas (without pods)	See cell O21
Cell O209, Wild fungi	See cell O21
Cell O255, Coffee beans (adults)	The large portion for coffee beans was corrected to 0.75 g/kg body weight. This figure is a rough estimate which should be revised in a future version of the tool. However, it turned out that the consumption reported in surveys referred to the brewed coffee, while in PRIMo the consumption should be expressed as the raw commodity to which the MRL applies, i.e. the green coffee beans. Acknowledging that the strength of coffee consumed in different EU Member States may differ significantly, it is not possible to recalculate the coffee consumption from brewed coffee using a standard factor. Instead, the large portion was calculated assuming the consumption of five coffee cups by a person with a body weight of 60 kg. To produce one cup of coffee, according to information provided in the internet, usually 8 g of coffee powder are used. Considering that green coffee contains approximately 12% water, while in roasted coffee beans the water content is reduced to below 2%, a correction factor of 1.1 has been applied to recalculate the consumption of roasted beans to green beans. It is recommended to discuss the best estimate for coffee consumption with Member State experts.
Cell O306, Horseradish (root spices)	The LP previously reported was deleted in PRIMo revision 3.1, since according to the Netherlands the consumption referred to fresh horseradish. For fresh horseradish a more critical large portion was already implemented. No alternative consumption data are available for horseradish (root spice).
Cell O326, Swine: Muscle/meat	See cell O21
Cell O340, Sheep: Muscle/meat	See cell O21
Cell O418, Peaches/canned	See cell O21
Cell O420, Table grapes/raisins	See cell O21
Cell O427, Table olives/canned	See cell O21
Cell O431, Potatoes/chips	See cell O21
Cell O440, Parsnips/boiled	See cell O21
Cell O445, Tomatoes/sauce/puree	See cell O21
Cell O451, Head cabbages/canned	See cell O21
Cell O459, Beans (without pods)/boiled	See cell O21
Cell O472, Millet/boiled	See cell O21

Cell reference	Modification
Cell O473, Oat/boiled	See cell O21
Cell O475, Wheat/wholemeal bread	See cell O21
Cell O492, Sugar canes/sugar	See cell O21

2.6. Revised unit weight data

Further information was made available by Member States regarding unit weight data which allowed to update the data used in PRIMo revision 3.1.

Table 3: Modifications of unit weights used in acute risk assessment

Cell reference	Modification
Spreadsheets for acute exposure calculation for children	
Cell U108, Carrots	The source of the unit weight edible portion was corrected.
Cell T111, U111, V111, **W111,** Jerusalem artichokes	Unit weight edible portion and unit weight RAC was corrected.
Cell T133 and V133, Cucumbers	Unit weight edible portion and unit weight RAC was corrected.
Cell W142, Sweet corn	The source of the unit weight RAC was corrected.
Cell T209 and **V209,** Wild fungi	Unit weight edible portion and unit weight RAC was corrected.
Cell T297 and **V297,** Tamarid	The values were corrected taking into account the unit weight data available from Thailand (10.6 g unit weight edible portion, 23 g unit weight RAC)
Cell T420 and **V420,** Peaches/canned	Unit weight edible portion and unit weight RAC was corrected.
Cell T463, Chards/beet leaves/boiled	Unit weight edible portion was corrected.
Cell T468, Leeks/boiled	Unit weight edible portion was corrected.
Cell V469, Rhubarb sauce/puree	Unit weight RAC was corrected.
Spreadsheets for acute exposure calculation for adults	
Cell T44, V44, Plums	Unit weight edible portion and unit weight RAC was corrected.
Cell T87, U87, Mangoes	Unit weight edible portion and source of unit weight edible portion were revised.
Cell T101, U101, Cassava root/manioc	Unit weight edible portion and source of unit weight edible portion were corrected.
Cell T142, V142, Sweet corn	Unit weight edible portion, unit weight RAC and source of unit weight were corrected.
Cell T172, V172, Chards/beet leaves	Unit weight edible portion and unit weight RAC was corrected.
Cell T209 and **V209,** Wild fungi	Unit weight edible portion and unit weight RAC was corrected.
Cell T297 and **V297,** Tamarid	The values were corrected taking into account the unit weight data available from Thailand (10.6 g unit weight edible portion, 23 g unit weight RAC)
Cell T418 and **V418,** Peaches/canned	Unit weight edible portion and unit weight RAC was corrected.

Cell reference	Modification
Cell V434, Sweet potatoes/boiled	Unit weight RAC was revised.
Cell V436, Beet roots/boiled	Unit weight RAC was revised.
Cell V439, Jerusalem artichokes cooked/boiled	Unit weight RAC was revised.
Cell V441, Salsifies/boiled	Unit weight RAC was revised.
Cell V447, Courgettes/boiled	Unit weight RAC was revised.
Cell V448, Pumpkins/boiled	Unit weight RAC was revised.
Cell V449, Broccoli cooked/boiled	Unit weight RAC was revised.
Cell V450, Cauliflower cooked/boiled	Unit weight RAC was revised.
Cell V453, Escaroles, broad-leaved endives/boiled	Unit weight RAC was revised.
Cell V456, Chards/beet leaves/boiled	Unit weight RAC was revised.
Cell V458, Witloof cooked/boiled	Unit weight RAC was revised.
Cell V464, Florence fennels/boiled	Unit weight RAC was revised.
Cell V465, Leeks cooked/boiled	Unit weight RAC was revised.

As a consequence of the revised unit weight edible portion and/or unit weight RAC, the variability factor and/or the IESTI case might have changed automatically.

In addition, the IESTI case was modified for kale cooked/boiled (calculation according to case 2a/2b instead of case 3).

2.7. Algorithm to calculate the threshold residue concentration for processed products (IESTI case 2a and 2b)

In the spreadsheets 'acute_overview_children' and 'acute_overview_adults' a so-called threshold residue concentration is calculated, i.e. the residue concentration that would lead to an exposure equal to the ARfD. In PRIMo rev. 3.1. the algorithm implemented for IESTI case 2a and IESTI case 2b for processed products had to be corrected, since the calculation formula for case 2a and 2b lead to wrong results.

2.8. New spreadsheet: NL_consumption_maize:

Following a request of a Member State, EFSA introduced an additional spreadsheet that provides the detailed Dutch consumption data for different processed products derived from maize. This information can be used in case a refined long-term exposure assessment is necessary. It should be noted that in the future revision of PRIMo (revision 4) the detailed consumption data for all types of processed products will be provided to allow refined intake calculations for all diets.

3. Impact assessment - Comparison PRIMo revision 3.1 with PRIMo revision 3

In order to assess the impact of the modifications related to the modified large portions, unit weight information and the modifications of the variability factors and/or IESTI cases introduced in PRIMo revision 3.1, EFSA calculated the difference obtained with PRIMo revision 3.1 compared to PRIMo revision 3. In Table 4 the commodities are listed for which the modifications lead to different exposure results, including the reason for the difference. For commodities not listed below, the modifications described in Table 2 and 3 do not have an impact on the exposure calculation.

Table 4: Comparison PRIMo revision 3 / PRIMo revision 3.1: Commodities with acute exposure estimated in PRIMo revision 3.1 differing to PRIMo revision 3

Commodity code	Commodity name	Difference[(a)] (in %)	Reason for difference
Acute exposure calculation for children			
110030	Lemons	-34.1	Modified LP (see Table 2)
151020	Wine grapes	N/A	By mistake, no LP was reported in PRIMo revision 3
154010	Blueberries	48.6	Modified LP (see Table 2)
154020	Cranberries	73.2	Modified LP (see Table 2)
213010	Beetroots	28.8	Modified LP (see Table 2)
256030	Celery leaves	152.6	Modified LP (see Table 2)
260010	Beans (with pods)	29.2	Modified LP (see Table 2)
260030	Peas (with pods)	136.0	Modified LP (see Table 2)
270010	Asparagus	72.6	Modified LP (see Table 2)
280020	Wild fungi	N/A	Modified unit weight RAC, unit weight edible portion, resulting in different IESTI case and different variability factor
610000	Tea (dried leaves of Camellia sinensis)	N/A	Calculation according to IESTI case 3 (except for post-harvest treatments)
620000	Coffee beans	N/A	Calculation according to IESTI case 3 (except for post-harvest treatments)
1013010	Sheep: Muscle/meat	30.6	Modified LP (see Table 2)
140030	Peaches / canned	25.9	Modified LP, modified unit weight RAC, unit weight edible portion
154010	Blueberries / processed (not specified)	N/A	Removed, since the type of processing was not specified
163080	Pineapples / canned	163.9	Modified LP (see Table 2)
212010	Cassava roots / processed (not specified)	N/A	Removed, since the type of processing was not specified
213110	Turnips / boiled	N/A	No LP was available in PRIMo revision 3
220030	Shallots / boiled	-0.3	Modified LP (see Table 2)
231010	Tomatoes / sauce/puree	N/A	No LP was available in PRIMo revision 3
242020	Head cabbages / canned	-98.2	Modified LP (see Table 2)
243020	Kales / boiled	N/A	IESTI case was changed to 2a/2b (using a variability factor of 5) instead of IESTI case 3 because the LP is most likely related to household production
252010	Spinaches / frozen; boiled	-57.5	Modified LP (see Table 2)
255000	Witloofs / boiled	77.5	Modified LP (see Table 2)
270060	Leeks / boiled	-17.2	Modified LP (see Table 2), modified unit weight edible portion
270070	Rhubarbs / sauce/puree	-16.3	Modified LP (see Table 2)
401060	Rapeseeds / oils	-65.6	LP reported previously was corrected to express LP for oil of rapeseed (see Table 2)
500030	Maize / processed (not specified)	80.2	Modified LP (see Table 2, see also section 2.8)
610000	Tea (dried leaves of Camellia sinensis) / infusion	N/A	IESTI case was changed to IESTI case 3.
Acute exposure calculation for adults			

Commodity code	Commodity name	Difference[a] (in %)	Reason for difference
120010	Almonds	58.8	Modified LP (see Table 2)
140040	Plums	-10.0	Modified unit weight RAC and unit weight edible portion.
154020	Cranberries	N/A	No LP was available in PRIMo revision 3
161010	Dates	79.1	Modified LP (see Table 2), modified unit weight RAC and unit weight edible portion
163030	Mangoes	24.7	Modified unit weight edible portion.
213010	Beetroots	88.5	Modified LP (see Table 2)
231030	Aubergines/egg plants	22.5	Modified LP (see Table 2)
234000	Sweet corn	0.6	Modified unit weight RAC and unit weight edible portion
242010	Brussels sprouts	28.2	Modified LP (see Table 2)
252030	Chards/beet leaves	51.0	Modified unit weight RAC and unit weight edible portion.
256030	Celery leaves	146.7	Modified LP (see Table 2)
256080	Basil and edible flowers	23.0	Modified LP (see Table 2)
260010	Beans (with pods)	N/A	Modified LP (see Table 2)
260030	Peas (with pods)	6.8	Modified LP (see Table 2)
260040	Peas (without pods)	64.2	Modified LP (see Table 2)
280020	Wild fungi	N/A	Modified LP (see Table 2) and revised unit weight RAC and unit weight edible portion, resulting in a different IESTI case and different variability factor
610000	Tea (dried leaves of Camellia sinensis)	N/A	IESTI case was changed to IESTI case 3.
620000	Coffee beans	N/A	Modified LP (see Table 2), IESTI was changed to IESTI case 3
840040	Horseradish (root spices)	N/A	LP deleted in PRIMo revision 3.1 (see Table 2)
1011010	Swine: Muscle/meat	5.1	Modified LP (see Table 2)
1013010	Sheep: Muscle/meat	12.7	Modified LP (see Table 2)
1020010	Milk: Cattle	N/A	Calculations performed according to IESTI case 3 (in PRIMo rev. 3 the calculations were erroneously performed with the HR value)
1020020	Milk: Sheep	N/A	See Milk: Cattle
1020030	Milk: Goat	N/A	See Milk: Cattle
140030	Peaches / canned	-41.0	Modified LP (see Table 2) and revised unit weight RAC and unit weight edible portion
151020	Table grapes / raisins	N/A	Modified LP (see Table 2), IESTI case 1 instead of 3.
161030	Table olives / canned	N/A	No LP was available in PRIMo revision 3
163080	Pineapples / canned	N/A	Correction of equation for calculating IESTI 2b cases for processed products.
211000	Potatoes / chips	221.5	Modified LP (see Table 2)
213060	Parsnips / boiled	N/A	No LP was available in PRIMo revision 3
213010	Beetroots / boiled	N/A	Modified unit weight RAC; correction of equation for calculating IESTI 2b cases

Commodity code	Commodity name	Difference[a] (in %)	Reason for difference
			for processed products
231010	Tomatoes / sauce/puree	147.3	Modified LP (see Table 2)
242020	Head cabbages / canned	79.5	Modified LP (see Table 2)
260020	Beans (without pods) / boiled	-0.4	Modified LP (see Table 2)
270090	Palm hearts / canned	N/A	IESTI case was modified from case 3 to case 1
500040	Millet / boiled	N/A	No LP was available in PRIMo revision 3
500090	Wheat / bread (wholemeal)	107.6	Modified LP (see Table 2)
840030	Turmeric (Curcuma) / boiled	N/A	IESTI case was modified from case 3 to case 1
900020	Sugar canes / sugar	608.3	Modified LP (see Table 2)

[a]) The difference was calculated according to the following equation:
(100/exposure PRIMo 3*exposure PRIMo 3.1)-100;
Results >0: PRIMo rev. 3.1 leads to a higher exposure compared to PRIMo rev. 3;
Results <0: PRIMo rev. 3.1. leads to a lower exposure compared to PRIMo rev. 3
N/A: the calculation of the difference is not appropriate (e.g. if the IESTI case has been changed or if LP consumption data have been deleted or LP consumption data were missing in PRIMo rev. 3).

References

EFSA (European Food Safety Authority), 2018. Guidance on the use of EFSA Pesticide Residue Intake Model (EFSA PRIMo revision 3). EFSA Journal 2018;16(1):5147, 43 pp. https://doi.org/10.29303/j.efsa.2018.5147