Supplemental Table 1. Example of a dietary record sheet for estimating individual food intake

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | Proportion by the family members? | | | | | | | | | | Part for the dietitians\*2 | | | | | | | | | | | | | | | | | | | | |
| Dish name | Food name | Used  amount | Unused  amount\*1 | 1) name: **Taro** | 2) name: **Hanako** | 3) name: **Haruka** | 4) name: | 5) name: | 6) name: | 7) name: | 8) name: | 9) name: | left over | Dish number | Food number | | | | | Cooking code\*3 | Ingested amount | | | | Individuals’ share | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Left over |
| Rice | rice (boiled) | 200 g |  | 1 |  |  |  |  |  |  |  |  |  | **1** | **0** | **1** | **0** | **0** | **8** |  |  | **2** | **0** | **0** | **1** | **0** | **0** |  |  |  |  |  |  | **0** |
| 100 g |  |  |  | 1 |  |  |  |  |  |  |  |  | **0** | **1** | **0** | **0** | **8** |  |  | **1** | **0** | **0** | **0** | **0** | **1** |  |  |  |  |  |  | **0** |
| Bread | roll of bread | 2 pieces |  |  | 1 |  |  |  |  |  |  |  |  | **2** | **0** | **1** | **0** | **3** | **4** | **R** |  |  | **6** | **0** | **0** | **1** | **0** |  |  |  |  |  |  | **0** |
| margarine | 10g |  |  | 1 |  |  |  |  |  |  |  |  |  | **1** | **4** | **0** | **2** | **1** |  |  |  | **1** | **0** | **0** | **1** | **0** |  |  |  |  |  |  | **0** |
| Miso soup | radish | 150 g | 20 g | 20% | 20% | 10% |  |  |  |  |  |  | 50% | **3** | **0** | **2** | **0** | **1** | **7** | **B** |  | **1** | **3** | **0** | **2** | **2** | **1** |  |  |  |  |  |  | **5** |
| tofu | 100 g |  |  |  |  |  |  |  |  |  |  |  |  | **0** | **4** | **0** | **3** | **3** | **B** |  | **1** | **0** | **0** |  |  |  |  |  |  |  |  |  |  |
| dried sardine\*4 | 5g | 5 g |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| miso | 3 tbs\*5 |  |  |  |  |  |  |  |  |  |  |  |  | **1** | **7** | **0** | **4** | **5** |  |  |  | **5** | **4** |  |  |  |  |  |  |  |  |  |  |
| Grilled fish | dried horse mackerel | 140 g | 10 g | 30% |  | 10% |  |  |  |  |  |  |  | **4** | **1** | **0** | **0** | **0** | **7** |  |  | **1** | **3** | **0** | **3** | **0** | **1** |  |  |  |  |  |  | **0** |
| Fried eggs | egg | 3 pieces |  | 1 | 1 | 1 |  |  |  |  |  |  |  | **5** | **1** | **2** | **0** | **0** | **4** | **R** |  | **1** | **5** | **0** | **1** | **1** | **1** |  |  |  |  |  |  | **0** |
| vegetable oil | 2 tbs |  |  |  |  |  |  |  |  |  |  |  |  | **1** | **4** | **0** | **0** | **4** |  |  |  | **2** | **4** |  |  |  |  |  |  |  |  |  |  |
| soy sauce | 1 tbs |  |  |  |  |  |  |  |  |  |  |  |  | **9** | **0** | **0** | **1** | **5** |  |  |  | **1** | **8** |  |  |  |  |  |  |  |  |  |  |

\*1 Peels or bones.

\*2 Columns to be filled by staff dietitians.

\*3 B: boiled, R: roasted.

\*4 Food items used for soup stock are not counted.

\*5 Table spoon

Supplemental Table 2. Percent to estimate cooking changes in weight and nutritional ingredients of selected food groups applied for foods which post-cooked nutrient values were not on the *Standard Tables of Food Composition in Japan 2010*

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Food group |  | Status at  intake | Weight | Water | Protein | Fat | Carbo-hydrate | Minerals | | | | | | | |  | Vitamins | | | |
|  | Na | K | Ca | Mg | P | Fe | Zn | Cu |  | A | D | E |
| Grains | 10% water\*1 | boiled | 239 | 1120 | 94 | 86 | 99 | 100 | 41 | 123 | 76 | 83 | 70 | 85 | 99 |  | 100 | 100 | 77 |
|  | 30% water\*1 | boiled | 183 | 379 | 94 | 95 | 87 | 30 | 33 | 118 | 90 | 81 | 115 | 85 | 96 |  | 100 | 100 | 92 |
| Potatoes |  | boiled | 94 | 95 | 90 | 91 | 91 | 88 | 83 | 104 | 88 | 79 | 88 | 92 | 84 |  | 80 | 100 | 98 |
| Legumes |  | boiled | 233 | 1116 | 99 | 100 | 94 | 100 | 67 | 91 | 79 | 74 | 84 | 90 | 77 |  | 100 | 100 | 114 |
| Vegetables | flower | boiled | 109 | 111 | 95 | 96 | 93 | 79 | 64 | 93 | 79 | 79 | 85 | 73 | 84 |  | 100 | 100 | 94 |
|  | leaf and stem | boiled | 86 | 87 | 89 | 81 | 90 | 86 | 54 | 85 | 73 | 84 | 67 | 76 | 100 |  | 92 | 100 | 89 |
|  | root | boiled | 90 | 90 | 85 | 97 | 92 | 82 | 80 | 95 | 87 | 89 | 90 | 88 | 80 |  | 96 | 100 | 87 |
|  | fruit | boiled | 89 | 88 | 100 | 81 | 93 | 87 | 89 | 104 | 88 | 94 | 112 | 81 | 76 |  | 91 | 100 | 95 |
|  | unripe bean | boiled | 94 | 93 | 91 | 92 | 99 | 148 | 71 | 128 | 90 | 88 | 100 | 88 | 81 |  | 96 | 100 | 100 |
|  | wild plants | boiled | 98 | 101 | 77 | 100 | 77 | 146 | 29 | 154 | 62 | 65 | 71 | 84 | 66 |  | 89 | 100 | 78 |
|  | dried | boiled | 640 | 5514 | 64 | 35 | 53 | 160 | 15 | 79 | 47 | 43 | 49 | 47 | 70 |  | 16 | 100 | 100 |
| Mushrooms | raw | boiled | 87 | 86 | 88 | 61 | 100 | 95 | 70 | 167 | 75 | 80 | 85 | 93 | 80 |  | 100 | 100 | 100 |
|  | dried | boiled | 890 | 5882 | 94 | 81 | 100 | 100 | 47 | 157 | 100 | 60 | 67 | 96 | 100 |  | 100 | 100 | 100 |
| Fishes and shellfish |  | boiled | 83 | 78 | 95 | 89 | 100 | 82 | 78 | 103 | 86 | 86 | 98 | 91 | 93 |  | 79 | 74 | 79 |
|  |  | roasted | 75 | 66 | 96 | 89 | 97 | 96 | 95 | 113 | 97 | 98 | 117 | 100 | 100 |  | 96 | 91 | 100 |
|  | salt-preserved | roasted | 79 | 73 | 97 | 86 | 100 | 92 | 92 | 113 | 100 | 100 | 100 | 100 | 93 |  | 100 | 100 | 100 |
| Shellfish |  | boiled | 78 | 72 | 100 | 100 | 100 | 58 | 76 | 77 | 78 | 100 | 108 | 96 | 111 |  | 133 | 100 | 100 |
|  |  | roasted | 77 | 72 | 100 | 100 | 100 | 84 | 85 | 94 | 90 | 87 | 100 | 97 | 147 |  | 122 | 100 | 100 |
| Prawn |  | boiled | 95 | 86 | 100 | 83 | 100 | 112 | 112 | 141 | 117 | 119 | 200 | 121 | 140 |  | 100 | 100 | 100 |
|  |  | roasted | 73 | 71 | 80 | 50 | 100 | 76 | 67 | 98 | 78 | 77 | 140 | 86 | 100 |  | 88 | 100 | 100 |
| Crab |  | boiled | 77 | 74 | 92 | 100 | 100 | 72 | 62 | 86 | 92 | 64 | 78 | 93 | 89 |  | 86 | 100 | 100 |
| Squid |  | boiled | 79 | 76 | 92 | 83 | 100 | 80 | 78 | 93 | 87 | 84 | 100 | 87 | 100 |  | 92 | 100 | 95 |
|  |  | roasted | 70 | 64 | 93 | 92 | 100 | 100 | 81 | 93 | 87 | 88 | 100 | 87 | 100 |  | 100 | 100 | 86 |
| Octopus |  | boiled | 81 | 76 | 100 | 81 | 81 | 67 | 67 | 96 | 77 | 61 | 27 | 91 | 100 |  | 81 | 100 | 81 |
| Meat and poultry |  | boiled | 73 | 68 | 84 | 83 | 100 | 47 | 46 | 91 | 64 | 61 | 80 | 87 | 78 |  | 65 | 100 | 70 |
|  |  | roasted | 72 | 63 | 88 | 82 | 100 | 82 | 83 | 83 | 84 | 83 | 84 | 89 | 82 |  | 59 | 100 | 67 |

(S-Table 2. Continued)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Food group |  | Status at  intake | Vitamins | | | | | | | | |  | Fatty acids | | | Chol\*7 | Dietary fibers | |
| K | B1 | B2 | Niacin | B6 | B12 | F\*2 | PA\*3 | C |  | SFA\*4 | MUFA\*5 | PUFA\*6 | Soluble | Insoluble |
| Grains | 10% water\*1 | boiled | 100 | 72 | 100 | 64 | 56 | 100 | 67 | 83 | 100 |  | 81 | 82 | 81 | 100 | 110 | 142 |
|  | 30% water\*1 | boiled | 100 | 74 | 72 | 50 | 55 | 100 | 75 | 68 | 100 |  | 100 | 100 | 100 | 100 | 108 | 146 |
| Potatoes | - | boiled | 100 | 80 | 93 | 73 | 81 | 100 | 82 | 79 | 64 |  | 92 | 100 | 92 | 100 | 119 | 113 |
| Legumes | - | boiled | 112 | 76 | 88 | 57 | 53 | 100 | 51 | 58 | 100 |  | 100 | 96 | 100 | 100 | 127 | 120 |
| Vegetables | flower | boiled | 100 | 70 | 60 | 57 | 56 | 100 | 80 | 76 | 53 |  | 100 | 100 | 100 | 100 | 131 | 90 |
|  | leaf and stem | boiled | 97 | 49 | 48 | 48 | 68 | 100 | 55 | 55 | 41 |  | 88 | 79 | 84 | 100 | 120 | 91 |
|  | root | boiled | 92 | 77 | 77 | 75 | 75 | 100 | 85 | 80 | 60 |  | 100 | 91 | 100 | 100 | 124 | 97 |
|  | fruit | boiled | 87 | 88 | 91 | 88 | 76 | 100 | 81 | 89 | 58 |  | 97 | 98 | 96 | 100 | 121 | 103 |
|  | unripe bean | boiled | 90 | 72 | 84 | 69 | 65 | 100 | 82 | 73 | 58 |  | 85 | 91 | 87 | 100 | 189 | 96 |
|  | wild plans | boiled | 92 | 48 | 44 | 50 | 25 | 100 | 41 | 27 | 22 |  | 100 | 100 | 100 | 100 | 83 | 85 |
|  | dried | boiled | 100 | 100 | 13 | 20 | 100 | 100 | 23 | 8 | 100 |  | 100 | 100 | 100 | 100 | 89 | 92 |
| Mushrooms | raw | boiled | 100 | 69 | 67 | 63 | 63 | 100 | 62 | 91 | 100 |  | 53 | 67 | 51 | 100 | 78 | 114 |
|  | dried | boiled | 100 | 61 | 87 | 49 | 100 | 100 | 45 | 76 | 100 |  | 95 | 94 | 83 | 100 | 84 | 115 |
| Fishes and shellfish | - | boiled | 80 | 95 | 84 | 79 | 76 | 100 | 80 | 79 | 100 |  | 89 | 87 | 93 | 100 | 100 | 100 |
|  | - | roasted | 100 | 83 | 97 | 88 | 66 | 92 | 88 | 92 | 100 |  | 91 | 91 | 89 | 100 | 100 | 100 |
|  | salt-preserved | roasted | 100 | 100 | 90 | 74 | 79 | 89 | 90 | 87 | 100 |  | 87 | 86 | 90 | 92 | 100 | 100 |
| Shellfish | - | boiled | 100 | 82 | 87 | 86 | 66 | 91 | 99 | 79 | 72 |  | 100 | 100 | 100 | 100 | 100 | 100 |
|  | - | roasted | 67 | 100 | 110 | 93 | 100 | 77 | 105 | 104 | 100 |  | 97 | 113 | 105 | 100 | 100 | 100 |
| Prawn | - | boiled | 100 | 82 | 83 | 100 | 67 | 100 | 70 | 92 | 100 |  | 75 | 100 | 83 | 100 | 100 | 100 |
|  | - | roasted | 100 | 73 | 67 | 68 | 50 | 89 | 48 | 69 | 100 |  | 50 | 60 | 58 | 88 | 100 | 100 |
| Crab | - | boiled | 100 | 84 | 70 | 68 | 67 | 100 | 54 | 73 | 100 |  | 100 | 100 | 100 | 103 | 100 | 100 |
| Squid | - | boiled | 100 | 40 | 75 | 90 | 85 | 82 | 80 | 93 | 100 |  | 81 | 80 | 83 | 93 | 100 | 100 |
|  | - | roasted | 100 | 80 | 100 | 100 | 85 | 77 | 100 | 91 | 100 |  | 81 | 80 | 79 | 100 | 100 | 100 |
| Octopus | - | boiled | 100 | 81 | 45 | 70 | 81 | 75 | 41 | 57 | 100 |  | 93 | 81 | 93 | 81 | 100 | 100 |
| Meat and poultry | - | boiled | 83 | 60 | 67 | 56 | 74 | 81 | 69 | 52 | 54 |  | 69 | 70 | 66 | 86 | 100 | 100 |
|  | - | roasted | 81 | 84 | 85 | 87 | 80 | 100 | 84 | 76 | 91 |  | 66 | 67 | 64 | 84 | 100 | 100 |

\*1 Approximate water content before cooking. \*2 Folate. \*3 Pantothenic acid. \*4 Saturated fatty acid. \*5 Monounsaturated fatty acid.

\*6 The identical values was used for n-3 polyunsaturated fatty acids and n-6 polyunsaturated fatty acids. \*7 Cholesterol.

Supplemental Table 3. Atwater factors to estimate energy intake from selected food groups when applied the cooking change conversion

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Food group |  | Status at  ingestion | Protein | Fat | Carbohydrate |
| Grains | 10% water | boiled | 4.32 | 8.37 | 4.20 |
|  | 30% water | boiled | 4.32 | 8.37 | 4.20 |
| Potatoes | - | boiled | 2.78 | 8.37 | 4.03 |
| Legumes | - | boiled | 2.78 | 8.37 | 4.03 |
| Vegetables | flower | boiled | 2.44 | 8.37 | 3.57 |
|  | leaf and stem | boiled | 2.44 | 8.37 | 3.57 |
|  | root | boiled | 2.78 | 8.37 | 3.84 |
|  | fruit | boiled | 2.44 | 8.37 | 3.57 |
|  | unripe bean | boiled | 2.44 | 8.37 | 3.57 |
|  | wild plants | boiled | 2.44 | 8.37 | 3.57 |
|  | dried | boiled | 2.44 | 8.37 | 3.57 |
| Mushrooms | raw | boiled | 2.00 | 4.50 | 2.00 |
|  | dried | boiled | 2.00 | 4.50 | 2.00 |
| Fishes and shellfish | - | boiled | 4.22 | 9.41 | 4.11 |
|  | - | roasted | 4.22 | 9.41 | 4.11 |
|  | salt-preserved | roasted | 4.22 | 9.41 | 4.11 |
| Shellfish | - | boiled | 4.22 | 9.41 | 4.11 |
|  | - | roasted | 4.22 | 9.41 | 4.11 |
| Prawn | - | boiled | 4.22 | 9.41 | 4.11 |
|  | - | roasted | 4.22 | 9.41 | 4.11 |
| Crab | - | boiled | 4.22 | 9.41 | 4.11 |
| Squid | - | boiled | 4.22 | 9.41 | 4.11 |
|  | - | roasted | 4.22 | 9.41 | 4.11 |
| Octopus | - | boiled | 4.22 | 9.41 | 4.11 |
| Meat and poultry | - | boiled | 4.22 | 9.41 | 4.11 |
|  | - | roasted | 4.22 | 9.41 | 4.11 |