Table 1. Information on investigated stone fruit

Agricultural commodity	Number of samples/trials[a)]	Sample weight (g)			Correction coefficient[c)]
		Flesh	Seed	Whole[b)]	
Cherry	30/6 (4)	6.32	0.54	6.86 (4.67–8.85)	0.921 (1.9%)
Ume (*J*-apricot)	46/10 (7)	23.4	3.06	26.5 (12.2–40.9)	0.876 (3.4%)
Sumomo (*J*-plum)	26/6 (4)	69.9	2.46	72.4 (44.0–99.6)	0.962 (1.7%)
Nectarine	26/6 (4)	144	9.66	154 (110–250)	0.934 (1.9%)
Peach	100/27 (8)	217	12.5	230 (143–391)	0.944 (1.5%)

[a)] Numbers of sample units/numbers of field trials (numbers of breed varieties). [b)] The minimum and maximum weights of whole commodities are expressed in parentheses. [c)] The correction factors were deduced, which can be used for calculation of residue levels expressed for whole commodities without seeds from analytical values. Relative standard deviations are expressed in parentheses.

ity (flesh+seed) are shown in Fig. 1. The weight ratios of edible potions tended to significantly increase with the weights of whole commodities for *sumomo* (R^2=0.980), but this relationship was poor in other stone fruits. Regression line slopes of each stone fruit revealed variations in the weight ratios of edible portions. The weight ratios of edible portions in small stone fruits such as cherry and *ume* varies compared to other stone fruits.

The lowest weight rate of edible portions to whole fruit units investigated in this study was calculated from *ume*, in which seed weight ranged from 9% to 20%, where weight rates of edible portions ranged from 80% to 91%. On the other hand, the highest weight ratio of edible portion to the whole fruit units was calculated from *sumomo*, where weight rates of edible portions ranged from 94% to 98%.

3. *Correction factors for residues levels on whole commodities*

Correction factors, used for calculating residues levels expressed for the whole commodity without seeds from analytical values, ranged from 0.876 for *ume* to 0.962 for *sumomo*. Relative standard deviations were ≤3.4% for *ume*. Correction factors ranged from 0.918 to 0.971 and averaged 0.944 for peach. Small commodities such as cherry and *ume* were more influenced by the calculation procedure to convert to a whole commodity basis.

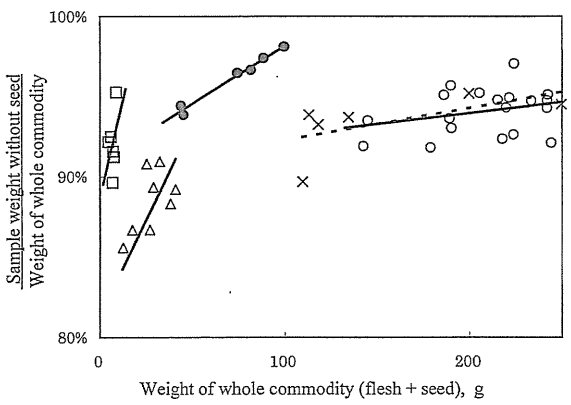

Fig. 1. Scatter plots of sample weights of stone fruits versus weight rates of edible potions to whole commodities (□ cherry, △ *ume*, ● *sumomo*, × nectarine, ○ peach).

The results indicated that calculated residue levels of whole commodities (according to the international standard) are slightly lower than the actual concentrations without seeds (according to the current Japanese regulations). This finding further supports the contention that an identical sample preparation procedure is required to avoid international trade problems. Among the stone fruits investigated in this study, the highest import percentage was reported for cherry, with approximately half of all cherry fruits being imported from the United States of America.[5)]

4. *Peeling effect for peach*

Weight rates of peel to the whole peach ranged from 7% to 15%. This range of peel weight rates was wider than edible portion (flesh+peel) weight rates, which ranged from 92% to 97%. This difference in weight rates was most likely influenced by both the peeling skill of workers during sample preparation and variations in developmental maturity across peach samples. In particular, it is difficult to peel soft skins from post-mature peaches and hard skins from immature peaches.

Conclusions

The calculated correction factor, which used to calculate residue levels expressed for whole commodities without seeds from analytical values, ranged from 0.88 for *ume* to 0.96 for *sumomo*. Small fruit commodities such as cherry and *ume* are more influenced by the calculation procedure to convert to a whole commodity basis. These results indicate that calculated residue levels in whole commodities (international standard) are slightly lower than the actual concentrations without seeds (current Japanese regulations). In conclusion, the correction factors calculated in this study for stone fruits were close to 1; therefore, there is minimal influence on the utilization of the residue data for MRL estimation.

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