

Original

Estimation of the Total Amount of the Radiocaesium in the Wild Boar in their Body – Each Organs Survey and Incineration Residue Survey

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Summary

We examined two methods of estimating the total amount of radiocaesium in the bodies of wild boar. This knowledge is important for proper disposal of wild boar containing radiocaesium that are captured during animal control culling operations. The two methods were organ survey and an incineration residue survey. For the organ survey, comparing the ¹³⁷Cs concentration in the muscle, heart, lung and other organs, muscle had the highest ¹³⁷Cs concentration in almost all individuals studied. For the incineration residue survey, we estimated the total amount of radiocaesium in wild boar using the ¹³⁷Cs concentrations and in the total amounts of main ash and fly ash that occurred after incinerating wild boar. We surveyed the relationships between ¹³⁷Cs concentration in muscle before incineration and ¹³⁷Cs concentration in main ash and fly ash, and a significant positive relation between ¹³⁷Cs concentration in muscle and ¹³⁷Cs concentration in main ash and fly ash was observed. In addition, the survey showed a significant positive relation between the weight of wild boar and the amount of main ash, but no significant relation between the weight of wild boar and the amount of fly ash. Therefore, estimating the accurate total amount of radiocaesium in wild boar by analyzing ash residue after wild boar incineration was difficult. Based on the organ surveys, the estimation value can be calculated by multiplying the ¹³⁷Cs concentration in the muscle by the weight of the wild boar. This estimation value was 1.57 times higher than the value closer to true value the calculated by estimation method using organs heavy rate of pig, therefore, we also indicated degree about this estimation value.

Key Words: Wild boar, Organs, ¹³⁷Cs concentration, Incineration, Ash
