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### **ВПЛИВ ДОДАТКОВОГО «ЧИСТОГО» ГОДУВАННЯ НА ВМІСТ <sup>90</sup>Sr І <sup>137</sup>Cs В КАРАСЯХ СРІБЛЯСТИХ (*CARASSIUS GIBELIO*) У ЧОРНОБИЛЬСЬКІЙ ЗОНІ ВІДЧУЖЕННЯ**

У природних умовах оз. Глибоке, яке є однією з найбільш забруднених радіонуклідами водойм Чорнобильської зони відчуження, у 2020 р. було проведено експериментальні дослідження з оцінки ефективності застосування додаткового «чистого» годування риб (*Carassius gibelio*) для зменшення рівнів їхнього радіоактивного забруднення <sup>90</sup>Sr і <sup>137</sup>Cs. Радіологічна ефективність зменшення надходження <sup>137</sup>Cs до м'язової тканини риб при застосуванні додаткового «чистого» годування, в основному за рахунок біологічного розведення, склала  $2,9 \pm 0,4$  раза. Період біологічного напіввиведення <sup>137</sup>Cs з м'язової тканини радіоактивно забруднених риб становив  $115 \pm 25$  діб при споживанні природного й додаткового «чистого» корму. На відміну від <sup>137</sup>Cs, застосування додаткового «чистого» годування призводило до збільшення вмісту <sup>90</sup>Sr в організмі риб порівняно з контролем (до 5 разів) прямо пропорційно відносного збільшення маси риб.

*Ключові слова:* <sup>90</sup>Sr, <sup>137</sup>Cs, *Carassius gibelio*, Чорнобильська аварія, радіоактивне забруднення, допустимі рівні.

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### **EFFECT OF ADDITIONAL “CLEAN” FEEDING ON <sup>90</sup>Sr AND <sup>137</sup>Cs CONTENT IN PRUSSIAN CARP (*CARASSIUS GIBELIO*) IN THE CHORNOBYL EXCLUSION ZONE**

Under natural conditions, in one of the most radioactively contaminated water bodies of the Chernobyl exclusion zone, lake Glyboke in 2020, experimental studies were carried out to assess the effectiveness of the use of additional “clean” feeding to reduce the levels of radioactive contamination of <sup>90</sup>Sr and <sup>137</sup>Cs in fish. The radiological efficiency of decreasing the <sup>137</sup>Cs intake into the muscle tissue of fish with the use of additional “clean” feeding, mainly due to biological dilution, was  $2.9 \pm 0.4$  times. The biological half-life of <sup>137</sup>Cs in the muscle tissue of radioactively contaminated fish was  $115 \pm 25$  days with the consumption of natural and additional “clean” food, which is approximately 2 times longer compared to the case when the fish consumes only clean food. In contrast to <sup>137</sup>Cs, using additional “clean” feeding led to an increase of <sup>90</sup>Sr content in the fish organism as compared to the control (up to 5 times) in proportion to the relative increase in the mass of fishbone tissue, which contains the bulk of strontium.

*Keywords:* <sup>90</sup>Sr, <sup>137</sup>Cs, *Carassius gibelio*, Chernobyl accident, radioactive contamination, permissible levels.

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