

FEATURES OF COLORADO POTATO BEETLE SPATIAL PLACEMENT IN POTATO PLANTINGS

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Based on the results of the detailed monitoring of plant damage by the larvae of the Colorado potato beetle, spatial heterogeneity of the pest in potato plantings in a field and vegetable crop rotations at Menkovo experimental station of the Agrophysical Institution (Leningrad region) was revealed, confirmed by high coefficients of variation (130 and 187%) and aggregation (2,5 and 3,5). The heterogeneity was related to the features of the pest spreading in fields and its selectivity to forage crops that vary in the availability of nutrients. The severe damage to the leaf mass of plants located on the boundary of the fields was caused on the one hand by the close location of the homesteads and, on the other hand, by the close proximity to last year's potato plantings. Under the application of mineral fertilizers, which led to an increase in foliage and vegetative mass of plants, there was a decrease in the plant damage by the larvae of the Colorado potato beetle to a moderate and severe degree (by 1,4–2,3 and 2,1–2,8 times in the field and vegetable crop rotations, respectively). Spatial heterogeneity of the pest beetles spread in the surveyed fields can be visualized by grouping data into elementary sections corresponding to the width of the treatment with varying degrees of fertilization on digital maps compiled with GIS AFI and Surfer 11 programs.

Keywords: potato plantings, Colorado potato beetle, damage to plants, spatial distribution, digital maps, cultivated fields, mineral fertilizers.