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Fungicides for protection of Russia gardens

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n the intensive fruit-growing areas of Russia, the most harmful disease is still scab epiphytotic which take place from seven to Inine times out of 10 years. To struggle with scab fungicides of different chemical classes, different mechanisms of action are used which allows using them in the course of anti-resistant program preventing mass disease development. Application of strobilurins, trifloxystrobin (Zato, VDG) and kresoxim-methyl (Strobi, VDG), has become the undoubted success, they are characterized by positive ecotoxicological indicators (fast products degradation in the environment up to non-toxic products, absence of negative effects on microbial communities in the soil and on earthworms). All above mentioned results have raised profitability of protective measures and efficiency in terms of struggle with a group of apple-tree diseases with low rates of application taking into account crown height of the trees to which the product is applied which lowered toxicity load on microbial cenosis. Apple-tree treatment with these products increased yield and fruit marketability as well as keeping capacity during storage. The preparations influenced cropping positively entailing raise of photosynthesizing activity and processes of growth, increasing new shoots gain by 41-45%, and reduced leaf senescence. Because of the high risk of resistance strobilurins (pyraclostrobin) were applied in gardens combined with active ingredients (boscalid and dithianon) - bellis, VDG (252+124 g/kg) and tersel, VDG (120+40 g/kg). Efficiency of these products in terms of struggle with a group of apple-trees diseases was also at high level: Grown fruit crop was almost not affected by the group of diseases (including rot), fruit had good keeping capacity. Lately, range of fungicides have been added with preparations of low toxicity containing new active ingredients belonging to anilinopyrimidine (a.i. pyrimethanil) and pyridylmethylamid chemical classes (fluopyram) - luna tranquility, SC (125+375 g/l)) and carboxamides - Fontelis, SC (200 g/l of penthiopyrad). Research shows that these preparations totally inhibited pathogenic agents in different fruit growing areas and with different disease development backgrounds. Leaves and fruit were almost completely protected from scab and powdery mildew. When harvesting, residual quantity of applied fungicides was not found which indicates that preparations are not accumulated in fruit and do not contaminate the environment.

Biography

L D Grishechkina is the employee of Federal State-Financed Scientific Institution All-Russian Research Institute of Plant Protection and have wide experience in terms of plants protection. The work activity is mainly focused on scientifically based regulations related to efficient and safe application of preparations intended for protection of the main crops against pests in order to include these crops in the disease control measures system. Selected by the scientists range of plants protection products guarantee high efficiency and ecological safety for many agrocenosis components by means of preparations for special purposes, new active ingredients with low rates of application, improved products formulations, modern methods of products application etc. In general, all these measures reduce toxic load on cenosis and do not contaminate the environment with xenobiotics which undoubtedly makes chemical method control less hazardous. Scientists research results are used in Russian pesticides registration system.

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