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Evaluation of Stimulatory, Antifungal and Thermo-resistant Action of Aqueous Dispersions of Nanoparticles on Seeds of Parental Forms and Reciprocal Hybrids of Winter Wheat

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For the first time in the crop technology, the effect of aqueous dispersions of nanoparticles was investigated on seeds of parental forms and their reciprocal hybrids, making it possible to effectively use this factor in plant breeding and genetic practice. The received data can be used to select optimal pairs for crossing and obtain new promising hybrids. It was shown the stimulatory, antifungal and thermo-resistant action (increase of resistance to pathogenic fungus) of water dispersed solutions of silver and copper nanoparticles on seeds of winter triticale. The antifungal effect of the nanofactor is more effective than of the potassium permanganate. In terms of seed germination energy and sprout length of winter wheat (parent varieties and their reciprocal hybrids) we revealed the stimulatory and antifungal action of aqueous dispersions of silver, copper, bismuth, and zinc oxide nanoparticles on the seeds. The maternal effect is revealed - the primary influence of the maternal form on the physiological parameters of the hybrid.