Broccoli: The Source of Obtaining Biologically Active Components

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Sulforaphane, a component of the cabbage family, fights inflammatory and infectious processes, shrinks the manifestation of lncRNAs in cancer cells and reduces their ability to form colonies by 400%, inhibits the activity of pathogenic microorganisms and stimulates vegetative plant development. It has been established: the highest concentration of sulforaphane is found in 5 day old broccoli sprouts, which contain 10–100 times more nutrients than mature plants so, 20–30 g of broccoli sprouts will replace 700 g of florescence in terms of sulforaphane mass. Scientists and biotechnologists around the world work to spread natural resources based on therapeutics. We've extended the unique properties of sulforaphane. Activity of a suspension of sulforaphane in doses of 30, 40, 50 mg based on the powder of 5-day prophets of broccoli was determined as a stimulator of seed germination and vegetative development of vegetable crops: tomatoes and cauliflower. The formation of seedlings was noted already on the 2nd day after soaking - from 2.0 to 3.4%, depending on the dose of C6H11NOS2, ahead of the control by 2-3 days. The vegetative cycle of the cultures treated with sulforaphane suspension ranged from 40 to 49 days, and in the control - 50 to 65 days, where treatment w/ the suspension wasn't carried out. Sulforaphane represses the activity of the pathogen, increasing the germination energy and root of cabbage seeds by 20–25% already on the 2nd day, while in the variants infected with B. cinerea, the germination of seeds was 10–17%. This project demonstrates the possibility of an effective, economic way to use the properties of sulforaphane, herbatic antibiotic, as a vegetable growth promoter and as an inhibitor against B. cinerea infestation of vegy crops.

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