Allelopathic Effects of Different Organs Extracts of Brussels Sprouts and Tomato

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Allelopatic effects of different organs of Brussel sprout cv. Royal Marvel and tomato C.V. Early Urbana were studied in this research work. For this purpose seeds of two plants were sown in either petri dishes or pots filled with Perlite. Seedlings were kept in growth chambers or green house respectively. They were irrigated regularly by complete strength Hoagland *nutritional solution. Extracts of different plant organs (leaf, stem* and root of Brussel sprout and leaf stem, root and flower of tomato) were prepared using watery or methanolic methods. Then, different levels of those extracts were applied on growing seedlings and later the growth of radicle, plumula as well as percentage of seed germination and biomass were evaluated.

Resultus showed that different secretions of both plants had prohibitive effect on growth of each other in which methanolic extract of Brussele´s leaves at leavels of 2 &4 ml and its root extraction at levels of 4 & 6 ml reduced growth of tomato radicle and plumule dramatically.

On the other hand, methanolic extract of tomato´s shoot, root and flower *could reduce radicle and plumula of Brussel´s seedlings,* In addition, extracts of different organs of both plants had negative effects on seedgermi nation and biomass production of each other. These effects can be explanied by existence of allelochemical inhibitors in extracts of two plants which they were extracted by HPLC in tomato i.e two allelopathics were chemicals (Vanilic acid and Parahydroxybenzoic acid) recognised in tomatos as inhibitors for Brussel sprout.