Table 1 *Effect of Tween 80 on hyphal differentiation in some fungi*

Concentration of Tween 80 (%)	Number of hyphal tips*				
	B. sorokiniana	*B. theobromae*	*P. versicolor*	*R. solani*	*S. racemosum*
0	58.0	100.0	41.4	45.3	63.6
0.5	61.6	336.3	73.8	118.3	218.7
0.8	77.6	667.3	82.5	163.3	219.5
1.0	79.3	362.2	71.7	196.6	201.4
Critical Difference at 5% level	16.3	59.7	5.0	21.7	30.1

*per unit width (1.6 mm) of colony margin after 48 hr growth.

such alterations is not clear. It is possible to explain this phenomenon in the light of the model proposed by Trinci[7] for branching in fungi. Trinci's model envisages a constant rate of production of cytoplasmic components (vesicles, precursors of wall polymers, wall synthetic and wall lytic enzymes) through out the mycelium. These are then transported towards the tips of hyphae under the influence of a polarizing mechanism[12]. In this model an event which stops or reduces the transport of protoplasm within the mycelium results in branch initiation. Surface tension is known to determine the transport of cytoplasmic components[13] and hyphal branching is a consequence of altered rate of transport[7]. These facts when viewed in the light of our results strengthen our belief that altering the energy relationship at agar-air interface induces branching by interfering with the velocity of cytoplasmic flow.

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SEVIN-INDUCED STIMULATION OF GROWTH AND METABOLISM OF MUNGBEAN (*VIGNA RADIATA* L WILCZEK) SEEDLINGS

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SEVIN (1-naphthyl-n-methyl carbamate), a widely used pesticide of carbamate group, has been reported to cause mutagenic effects in *Drosophila* flies[1], chromosome abnormalities in mitotic and meiotic cells of plants and male gametes of *Poecilocerus pictus*[2] as well as produce adverse effects on protein, carbohydrate and lipid metabolism in the fish *Cirrihinus mrigale*[3]. The present investigation was undertaken to see the effects of Sevin on root and hypocotyl lengths, ac-

Table 1 *Effect of various concentrations of Sevin on growth and metabolic parameters of mungbean seedlings. Each datum is the mean of 4 replicates (Seedling age: 72 hr)*

Parameters	Water control	Sevin (ppm) 100	200	300	CD ($P<0.05$)
Root length (cm)	4.1	5.0	6.3*	6.1*	1.0
Shoot length (cm)	10.5	13.0*	12.4*	10.7	1.4
Amylase (mg maltose released/g f. wt.)	0.61	0.73*	0.85*	0.57	0.08
Protease (increase in OD/g f. wt.)	0.22	0.24	0.27*	0.28*	0.04
RNase (increase in OD/g f. wt.)	1.05	1.31*	1.78*	1.02	0.22
DNA (μg/g f. wt.)	0.68	1.13*	1.12*	1.02*	0.17
RNA (μg/g f. wt.)	3.1	4.5*	5.4*	8.6*	0.7
Alkali soluble protein (mg/g f. wt.)	4.5	5.5	8.4*	4.7	1.2

* denotes significance at 5% level.

tivities of hydrolyzing enzymes, viz amylase, protease and RNase of cotyledons together with DNA, RNA and protein contents of mungbean seedlings.

Mungbean (*Vigna radiata* L Wilczek) seeds were germinated in 100, 200 and 300 ppm aqueous solutions of Sevin in dark, humid atmosphere at 26°C. Seeds germinating in water were taken as control. Activities of amylase[4], protease[5] and RNase[6] enzymes and the levels of nucleic acids[7] and proteins[8] were measured. Seedling elongation measurement and biochemical analysis were carried out with 3-day old seedlings.

Seedlings measured longer in Sevin treatments as compared to control (table 1). The relative root elongation was greater than that of shoot growth. Sevin stimulated the activities of amylase, protease and RNase of mungbean cotyledons. Nucleic acids and protein contents were also increased by Sevin treatments. During seed germination, the seedlings depend on the storage tissue for the reserve foods to be used for germination and growth through the action of hydrolyzing enzymes[9]. Growth-promoting action of Sevin was found to be mediated through increased activities of hydrolases. Similarly, enhanced levels of nucleic acid and proteins under Sevin treatments could be correlated with growth promotion of seedlings.

It appears from the present work that Sevin can be used at a concentration of 100–200 ppm with no detrimental effects. In addition to its conventional use in pest control, the possibility of growth promotion offers a distinct advantage.

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A NOTE ON ORIGIN AND CYTOLOGY OF A HEPTAPLOID PLANT OF *SOLANUM* SECTION *SOLANUM*

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THERE are conflicting reports regarding the nature of polyploidy in the *Solanum* section *Solanum*[1]. The present note reports the functioning of $2n$ gamete in this group providing a clue towards understanding the nature of polyploidy.

While crossing *S. nigrum* L ($2n = 6x = 72$) and