Table 1 *RNase activity of S. aureus strains by slide assay**

	S – 100	S – 361
Acetate		
0.1 M pH 5.5	+	+
0.05 M pH 7.0	+	+
pH 9.5	+	+
Tris		
0.1 M pH 7.0	+	+
pH 9.5	+	+
0.2 M pH 7.0	++	++
pH 9.5	+	+
Phosphate		
0.02 M pH 5.5	+	+
pH 7.0	++	++
0.05 M pH 5.5	+	+
pH 7.0	++	++
0.1 M pH 5.5	+++	+++
pH 7.0	+++	+++
0.2 M pH 5.5	+++	+++
pH 7.0	++	++

*Ratings are based on the brightness and diameter of the pink zone; +, < 5 mm diameter; ++, 6–8 mm diameter; +++, > 8 mm diameter.

used in the test. RNA assay medium can also be stored at ambient temperature for over two months as DNA assay medium. The most important advantage is the clarity of the pink colour change in the blue background of the assay medium with RNA as substrate.

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EFFECT OF FUNGICIDE ZINEB ON THE LEACHING OF MICRONUTRIENTS FROM THE LEAVES OF *ZEA MAYS* L.

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PESTICIDAL spray is known to alter the leaf leachate constitutents, which in turn have a direct effect on the disease incidence[1]. Leaching of substances has also been implicated in the yield, quality and nutritive value of economic food plants[2] and it may also intensify in certain physiological disorders[3]. We had earlier reported[4] some of the microbiological changes in *Cicer arietinum* due to pesticidal sprays. An attempt has been made in the present study to see the effect of zineb on the leaching of micronutrients from leaves.

Zea mays L. grown under field conditions was sprayed with zineb, when the crop was 40-day-old. One plot left unsprayed as control. Leaf samples from the two plots were collected on 1st, 3rd, 5th, 10th, 15th, 25th and 40th day during post-spray period. Leaf leachates of control and pesticide-treated leaves were collected as recommended by Godfrey[5] in water by immersing 10 g of freshly collected leaves in 100 ml of sterile glass distilled water for 6 hr. Free iron content in the leaf leachates was estimated employing the technique recommended by Ryan and Botham[6] using 1–10 phenanthroline reagent. Sodium and potassium were estimated using the flame photometer (Elico, Hyderabad model CL-22,) and the concentrations read from standard graphs made earlier using sodium chloride and potassium chloride respectively.

Table 1 shows that amount of micronutrients in the leaf leachates of control and sprayed leaves. There is increase in the content of iron and potassium in sprayed samples. There is not much

Table 1 *Micronutrients (μg g leaf) of leaf leachates of control and zineb sprayed leaves of zea mays*

Days after spray	Control			Zineb		
	Iron	Na	K	Iron	Na	K
1	0 8	8 0	30	3 5	8 0	50
3	0.7	7.0	35	2.5	3 0	28
5	0 9	10 0	15	2.0	18.0	15
10	2.0	12.0	20	2 6	7.0	18
15	3.2	15.0	28	2.5	8 0	10
25	3.5	8 0	30	2.6	10 0	28
40	4 0	10.0	- 15	2.0	15.0	38
Mean	1 85	10.0	24.7	2.6	9.9	26 7
± SD	1 15	2.56	7.40	0.45	4.70	12 90

change in the sodium content. In general, young leaves of control leached less nutrients than older leaves, while such variation cannot be noticed in sprayed leaves. There is significant deviation in the iron content in control as there is a lot of variation in the young and old leaves. Variation is not significant in sprayed samples while there is considerable variation in the sodium and potassium content in treated leaves.

Variable amounts of ninhydrin-staining compounds with fungicides and small amount of total amino acids due to pesticide spray have been reported earlier[1,4]. Certain antibiotics are also known to induce leakage of potassium, NH_4^+ and carboxylic acids[8]. The above results show that fungicidal spray results in the variability of different micronutrients through leaching.

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REMOVAL OF SEED DORMANCY BY GA IN SOME WEEDS

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DORMANCY is caused by seed characteristics or by a set of environmental conditions. It generally helps in overcoming unfavourable season, by stopping embryo growth during seed maturation. Dormancy in weed seeds is often highly developed; certain plant species also become weeds due to the system of dormancy they have evolved[1]. A large number of growth regulators have been reported for breaking dormancy and enhancing seed permeability, thus inducing and hastening their germination[2]. Gibberellin-like substance has been seen in a number of seeds which plays an important role in *de novo* synthesis of α-amylase which hydrolyses starch reserves in the endosperm. In the present study, an attempt has been made to observe the effect of gibberellic acid on seed germination of two kharif season weeds: *Borreria articularis* (Linn.) F. N. Will and *Trianthema portulacastrum* Linn. and a rabi season weed of irrigated fields, *Plantago ovata* (Forsk.) in Indian desert.

Seeds of *B. articularis* and *T. portulacastrum* were collected from the New Campus of the University, and that of *P. ovata* from a farmer's field near CAZRI, Jodhpur. Germination studies were carried out in sterilized petri dishes lined with a single layer of filter paper and moistened with distilled water. The experiments were performed in triplicate with each petri dish containing 10 seeds. All experiments were performed in continuous light (1000 Lx) at 28 ± 2°C. The seeds of all the three species were given the soaking pre-treatment in 10, 50, 100 and 200 ppm of GA for 24 hr and 48 hr. Observations were taken at the end of seven days.

A brown diffusate is released on the filter paper when moist seeds are kept for germination. Since fresh seeds poorly germinate it was presumed that either some inhibiting factors are responsible for the lack of germination or the embryo lacks the vigour to develop.

It is evident from table 1 that seeds of *B. articularis* and *T. portulacastrum* exhibited only 26.6% germination, while those of *P. ovata* with hard seed coat exhibited dormancy as no germination was obtained in continuous light. GA at all concentrations enhanced the germination percentage in *B. articularis* and *P. ovata*, while in *T. portulacastrum* only 10 ppm brought about 46.6%