

## The Influence of Growth Regulators on Storage Life of Grapes

The grapes, in general, have a short post-harvest life and deteriorate rapidly and trials were undertaken to evaluate the effectiveness of regulators. The regulators B-9 (2000 ppm), Cycocel (2000 ppm), Phosfon-D (500 ppm), MH (500 ppm) and TIBA (500 ppm) were employed to study the influence on the storage of Anab-e-Shahi berries. The first spraying was given during pre-bloom period, a second application at full bloom and a third spraying when the berries were maturing. The bunches were stored under room temperature

and in the cold room at 0°C to study the effect of these chemicals on the keeping quality of fruits.

The results on the percentage of spoiled berries in room temperature (Table 1) and at 0°C (Table 2) showed that the berries did not develop spoilage symptoms till 7 days after storage in room temperature and 55 days in the cold room. On the eighteenth day 14.1 per cent of the treated berries and 39.4 per cent of the control were spoiled in room temperature mostly

TABLE 1. Percentage of spoilage of berries stored at room temperature.

Treatment		Days after storage				
		8	10	12	14	16
B - 9	1	37.6	41.4	16.3	4.7	—
	2	22.5	34.3	30.0	13.2	—
	3	29.1	33.5	19.8	17.6	—
Cycocel	1	6.9	13.9	31.1	31.9	6.2
	2	6.8	23.9	40.0	29.3	—
	3	11.1	24.7	20.4	38.2	5.0
Phosfon - D	1	7.1	24.2	36.6	32.1	—
	2	10.2	24.7	26.1	39.0	—
	3	8.2	27.9	36.6	27.3	—
MH	1	10.7	30.2	12.2	40.9	6.0
	2	17.4	41.7	11.7	13.7	15.6
	3	16.3	37.4	18.3	14.6	14.0
TIBA	1	23.2	54.9	14.0	7.9	—
	2	15.5	36.3	20.8	27.4	—
	3	16.2	38.1	24.6	21.1	—
Control		34.5	40.9	19.0	5.6	—

1 — One spraying

2 — Two sprayings

3 — Three sprayings



TABLE 2. Percentage of spoilage of berries stored at 0° C

Treatment		Percentage of berries spoiled after (Days)				
		60	65	70	75	80
B - 9	1	—	40.0	52.1	7.9	—
	2	—	42.4	48.5	9.1	—
	3	—	34.2	49.8	9.0	7.0
Cycocel	1	—	—	29.7	68.3	12.0
	2	—	—	20.0	54.3	25.7
	3	—	—	14.0	48.5	37.5
Phosfon-D	1	—	47.1	43.0	9.9	—
	2	—	53.9	37.2	8.9	—
	3	—	42.9	42.4	7.6	7.1
TIBA	1	—	13.2	36.6	42.1	8.1
	2	—	8.4	34.2	39.8	17.6
	3	—	6.3	40.2	34.6	18.9
MH	1	—	—	13.5	48.3	38.2
	2	—	—	10.6	52.5	36.9
	3	—	—	6.4	34.6	32.8
Control		28.5	71.5	—	—	—

1 — One spraying

2 — Two sprayings

3 — Three sprayings

due to berry shatter, fungal decay caused by *Aspergillus* and *Rhizopus* and browning and shrinkage of the berry stem and peduncles. The pulp also showed browning but the shrinkage of berries was not observed. Spoilage of berries increased every day and by the 12th day of storage, 87.8 per cent in 8-9 treatment, 78.7 per cent in TIBA, 65.0 per cent in Phosfon-D, 61.9 per cent in MH and 59.9 per cent in cycocel against 98.8 per cent in untreated bunches was noted. It is thus clear that the berries of Anab-e-Shahi could be kept without spoilage till seven days at room temperature and these regulators had no influence on the storage life of grapes under room temperature.

In cold room condition there was a spoilage of 28.5 per cent in the untreated bunches by 60 days. The degree of spoilage examined when 70 days after storage indicated the superiority of the treatments in extending the storage life over control with 46.4 per cent spoilage against complete decay of berries under the control. The spoilage in MH treatment was significantly lower and the repeat applications at higher concentrations were better than single application and due to MH treatment 35.9 per cent of the berries remained in sound condition even after 80 days of storage.

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