markers for differentiating a spice from a condiment. Jindal and Singh[5] studied the phenolic content in male and female *Carica papaya*, which served as possible physiological marker for sex identification of vegetative seedlings.

Thus in a final assessment of the data, it is clear that the physiology of spice is different at least in some respects from that of a condiment and the terminology of spice and condiment holds good basing on physiological criteria.

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INFLUENCE OF POTASH NUTRIMENT ON PHENOL AND SOLUBLE CARBOHYDRATES IN CHILLI LEAVES

POTASSIUM fertilization has been reported to reduce the intensity of paddy blight caused by *Xanthomonas oryzae* (Ono[8], 1957; Ranga Reddy and Sridhar[11], 1976), High levels of potash decreased total phenolics and sugar levels and *X. oryzae* infected leaves accumulated more phenols and low reducing and non-reducing sugars (Ranga Reddy and Sridhar[11], 1976). In the present study the effect of potash application against *X. vesicatoria* in chillies has been studied.

Materials and Methods

Chilli variety, K 1, was transplanted in pots and applied with six levels of potassium, *viz.*, 0 K, 30 K, 60 K, 90 K, 120 K kg/hr. Inoculation was done with the bacterial suspension (*ca.* 10^7 cells/ml) of *X. vesicatoria*, when the plants were 35 days old and the pots were kept under humid condition for the disease development. Each treatment was replicated four times and suitable controls were also maintained. After 5 days, when the plants developed the disease, plant samples were collected from all the treatments and extracted with 80% boiling ethanol. The ethanol extract was used for further estimations of total phenols, (by Bray and Thorpe[2], 1954), reducing sugars (by Nelson[7], 1944) and non-reducing sugars (by Inman[1], 1962).

Results and Discussion

Increased levels of potash application has decreased the total phenolics' concentration (Table I). Potassium-deficient plants contained large amounts of phenols (Mulder[5], 1949). It is presumably due to high amounts of soluble sugars in the plants for the synthesis of phenols. Bacterial inoculation accumulated more total phenolics (Table I). The recent report of Purushothaman[10] (1975) also indicates that the rice plants infected with *X. oryzae* accumulated more phenolics. This increase in phenolic concentration might arise from the release of phenols from their glucosides by the B-glucosidase of either host or pathogen (Pridham[9], 1965). Nayudu and Walker[6], (1961) reported that high levels of N, P and K suppressed the chilli bacterial leaf spot by disturbing the osmotic pressure. Potassium may also lead to disturb nitrogen and carbohydrate metabolism (Hewitt[3], 1963). Higher amounts of soluble carbohydrates (Bird[1], 1954) are reported to favour tissue susceptibility especially to *Xanthomonas* species. In the present case, as the potash level increased, the soluble carbohydrates decreased (Table II).

TABLE I

Changes in total phenols of healthy and X. vesicatoria *infected chilli leaves in Catechol equivalents (μg/g oven dry weight)*

K level in gm/pot	Phenol level	
	Healthy	Infected
Control	325	296
0·30	309	324
0·60	216	245
0·90	193	229
1·20	248	232

TABLE II

Changes in reducing and non-reducing sugars of healthy and X. vesicatoria *infected leaves (glucose equivalents μg/g oven dry weight)*

K level in gm/pot	Reducing sugars		Non-reducing sugars	
	Healthy	Infected	Healthy	Infected
Control	696	683	1650	1440
0·30	671	643	1500	1305
0·60	587	536	940	897
0·90	512	480	680	664
1·20	506	523	590	576

In general, the plants supplied with high potash tend to increase permeability of the protoplasmic membrane (Stocking[13], 1956). In leaves supplied with potassium, phenolic compounds may accumulte around the diseased spots and thereby arrest the multiplication and migration of the bacterium, to control the severity of the disease.

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PLEUROTUS EOUS (BERK) SACC.: A NEW CULTIVATED MUSHROOM

DURING the survey of edible mushrooms around Mysore, an attractive pink coloured mushroom, similar to *P. flabellatus* (white coloured), was collected during October 1975 from the dead portion of a living tree (*Ficus bengalensis*). The identification was confirmed by Dr. D. N. Peglar of Royal Botanic Gardens, Kiew, as *Pleurotus eous* which was earlier reported in 1848 from hot valleys of Sikkim, India*.

The cultivation of *P. eous* (Fig. 1, A–C) was successfully carried out on water soaked chopped paddy straw in circular plastic basins (32 cm dia × 13 cm) shallow and deep rectangular wooden trays (60 × 90 × 17·5 cm) at room temperature (21–35° C) and R.H. 65–90%. About 100 g, spawn on paddy straw, 25–30 g of coarsely ground horse gram and 3 kg of pre-soaked paddy straw were mixed and filled into containers to raise the mushroom crop. During the cultivation, it was observed that the deep wooden trays required less watering and provided 1·6–1·8 times more yield compared to the circular basins and shallow wooden trays. The number of pinheads formed in shallow containers were often more compared to the deep trays but the yield recorded from the latter was much higher. This may be attributed to the fact that lower number of pinheads grew to their maximum size. The substitution of oilseed cakes (groundnut/sesame) at different levels, while spawning, did not improve the mushroom growth.

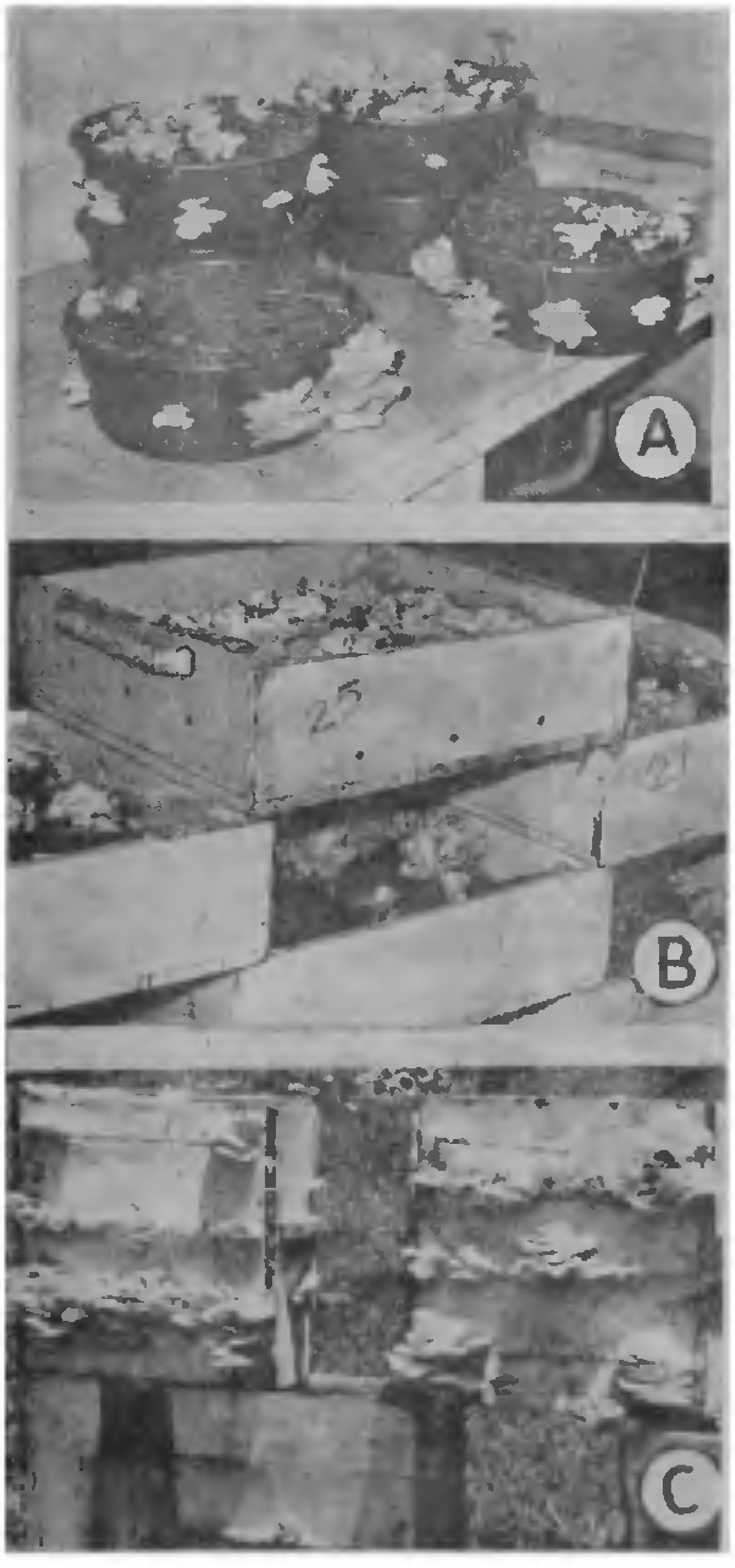

FIG. 1. *Pleurotus eous* growing in circular plastic basins (A), rectangular shallow (B) and deep (C) wooden trays.