fungicide gave significantly higher disease control in lentil.

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Variability in *Phytophthora colocasiae* Based on Colony Characters

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Phytophthora colocasiae Raciborsky causes leaf blight in colocasia leading to yield loss of 25-50 %. Present study report on the variability of *Phytophthora colocasiae* isolates based on colony characters. Seventy one isolates of *Phytophthora colocasiae* were obtained on Papaya dextrose agar medium (aqueous extract from 400 g peeled and boiled raw papaya made up to 1000 ml with distilled water after dissolving 20 g dextrose and 20 g agar in it) from the leaf samples collected from different areas of six states *viz.*, Orissa, Uttar Pradesh, Bihar, West Bengal, Andhra Pradesh and Kerala. Based on colony characters, these isolates were categorized into seven cultural groups *viz.*, A, B, C, D, E, F and G (Table 1). Chauhan *et al.* (2002) attributed the higher incidence to low level

Table 1. Grouping of *Phytophthora colocasiae* cultures/isolates based on colony characters

Groups	Colony characters	Isolates No.
A	Deep white with plane mycelial mat,	PC-20, 30, 28, 24, 33
B	Deep white, diffused mycelial mat with concentric rings, slow growth rate	PC-47, 19, 49, 37, 21, 18, 29, 51, 50, 26, 10, 14, 52, 53, 54, 55, 61, 62, 6, 7, 64, 65, 68, 69
C	Puffy white, woody mycelial mat with deep concentric rings, slow growth rate	PC-27, 40, 11, 12, 13, 2, 3, 35, 45
D.	Yellowish white, slight concentric rings with high growth rate	PC-15, 25, 38, 31, 16, 70
E	Puffy white, loose mycelial waxy growth with mdium growth rate	PC-17, 23, 5, 8, 9
F.	Deep white, with bulbous raised mycelial mat, high growth rate	PC-42, 44, 46, 34, 36, 4, 67, 43
G.	Puffy white bulbous raised mycelial mat, slow growth rate	PC-22, 48, 41, 1, 32, 39, 56, 57, 58, 59, 60, 63, 66, 71

of field topography. Chauhan *et al.* (2004) further reported that wilt of pigeon pea was dependent on abiotic factors and sole crop grown regularly.

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Effect of Weather Variables on Contamination of Oyster Mushroom Spawn

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Spawn production is one of the important steps in the cultivation of mushrooms. Despite all efforts, the main hurdle for spawn production is frequent contamination of microflora (Kumar & Sharma, 2006). In order to determine the role of weather conditions on extent of contamination, studies were made on the role of contaminants in Oyster (*Pleurotus sajor-caju*) mushroom spawn production on monthly basis.

Spawn bags were labeled and shifted to the spawn incubation room at existing temperature and humidity. The spawn run in the bags took 2-3 weeks to complete. Ten spawn bags were raised in laboratory in the first week of each month and allowed for mycilium run. Daily inspection was made to trace any growth of unwanted microflora till complete mycelial run. Contaminated bags were recorded and placed separately after tagging with zinc plates. These contaminant microflora were identified and % infection rate was calculated.

Three fungi *viz. Trichoderma harzianum, Penicillium notatum, Aspergillus fumigatus* and one bacteria *Pseudomonas* sp. were isolated and identified from contaminated spawn bags of *Pleurotus sajor-caju*. Among these, *Pseudomonas* sp. was observed to multiply rapidly and not allowing the growth of mushroom mycelium. In case of *T. harzianum* caused most severe suppression of growth of mushroom mycelium and covered highest area followed by *A. fumigatus* and *P. notatum*, respectively. The maximum contamination was observed in the month of July and August (62.4-83.3%) in the year of 2002-2003 and 2003-2004, when the maximum temperature was 32.0°C minimum temperature 25.2°C with R.H. 85.9% and heavy rainfall (72.4-398.6 mm). In case of 2004-2005, maximum contamination was observed in the month of May and June (37.25-44.4%) when maximum temperature was 33.0°C minimum temperature 25.8°C R.H. 70.78%, rainfall of 235.2 mm. Contamination % of mushroom spawn was less during September to March in all the years (Table 1). But contamination chances were least in the month of December and January due to low maximum and minimum temperatures because most of the contaminant microflora appeared during summer and monsoon season which could be avoided with application of tartaric acid, ascorbic acid and potassium metabisulphite at $12^0 \pm 1^0$C (Sharma & Babukhandi, 2003). Spawn contamination was assumed by the air borne microflora present inside the inoculation room. During the transfer of the mother spawn into the