

# EVALUATION OF THE AFLATOXIN, CAPSAICINOID AND CAROTENOID CONTENT IN SUN, CABINET AND SHADE DRIED HIMALAYAN KASHMIRI RED CHILLI (*CAPSICUM ANNUUM L.*)

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**Abstract**—The comparative effect of different drying methods on the aflatoxin, color and pungency of Himalayan belt of Kashmiri Red Chilli were investigated. The drying technique employed were sun, cabinet at a temperature of 50°C and 60°C and shade drying. Presence of Aflatoxins, due to the poor hygiene practises is one of the important parameter related to the safety issues and thus is given a major importance. The samples tested for aflatoxin content showed a significant difference ( $P < 0.05$ ) in sun dried, cabinet dried (50°C and 60°C) and shade dried Red chilli. The total aflatoxin content present in sun dried, cabinet dried (50°C and 60°C) and shade dried Red chilli samples were  $2.33 \pm 0.03$  µg/kg,  $0.00 \pm 0.00$  µg/kg,  $0.00 \pm 0.00$  µg/kg and  $4.09 \pm 0.02$  µg/kg respectively. The capsanthin concentration, responsible for the bright red color, found in sun dried, cabinet dried (50°C and 60°C) and shade dried Red chilli samples were significantly ( $P < 0.05$ ) different and were  $1809 \pm 32$  mg/kg,  $1542 \pm 10$  mg/kg,  $1532 \pm 24$  mg/kg and  $1100 \pm 21$  mg/kg respectively. However, in case of capsaicin, a pungent compound, significant difference ( $P < 0.05$ ) were observed when sun dried and cabinet dried samples were compared with shade dried samples. The capsaicin content found in sun dried, cabinet dried (50°C and 60°C) and shade dried Red chilli samples were  $1310 \pm 10$  mg/kg,  $1330 \pm 12$  mg/kg,  $1320 \pm 15$  mg/kg and  $980 \pm 12$  mg/kg respectively. Thus, it was concluded that cabinet drier samples were completely free from aflatoxins thus eliminating safety issues related to Red Chilli and simultaneously ensuring quality related to capsaicinoids and carotenoids.