

Feeding experiments with ^{14}C and ^{13}C – labeled precursors have demonstrated that the phloroglucinol ring of the 3-ethylchromone phytoalexin lathodoratin from cupric sulphate – induced pods of sweet pea (*Lathyrus odoratus*) has a polyketide origin. The remaining five carbon “isoprene unit” is derived from the amino acid isoleucine which provides the starter unit, probably 2-methylbutanoate, for acetate-malonate chain extension. The pterocarpan phytoalexin pisatin is produced along with lathodoratin, and precursors were incorporated in agreement with earlier studies. Two minor 3-ethylchromones were also synthesized on cupric sulphate treatment of the pods. These were the previously reported 7-O-methyl ether of lathodoratin (methyl-lathodoratin) and a new compound, the 5-7-di-O-methyl ether (dimethyl-lathodoratin). Dimethyl-lathodoratin is the most fungitoxic of the 3-ethylchromone phytoalexins.