

十一、研究計畫中英文摘要：請就本計畫要點作一概述，並依本計畫性質自訂關鍵詞。

(二) 計畫英文摘要。(五百字以內)

Edible and medicinal mushrooms contain many physiologically active substances, including polysaccharide, triterpenoid, ergosterol, vitamin D and ergothioneine. Some of the compounds are necessary for maintaining the function of human body, such as the vitamin D. In the recent, vitamin D possesses many functions never known at past were found gradually and is absent in body would cause many diseases. At present, only less kinds of food could supply vitamin D. The main sources of vitamin D are animals, such as cod-liver oil and liver. Another supplementary source of vitamin D is to utilize the sun to shine the skin, is produced by the human body. Fortunately, edible and medicinal mushrooms process a large number of ergosterol could convert to vitamin D by using ultraviolet light irradiation. Ultraviolet light is utilized usually in many industries and researches. In our country, only few researches used ultraviolet light to increase the content of vitamin D from edible and medicinal mushrooms. In the world, the application of ultraviolet light on the research of mushroom mycelium is very rare. Due to mushroom mycelium with short cultivation time and large surface for ultraviolet irradiation, so it possesses great range of application and potential for develop health food containing vitamin D. Using ultraviolet light irradiation on edible and medicinal mushrooms to increase the content of physiologically active substances, not only provide chance for people to supplement vitamin D, but also help the vegetarian to maintain health. In this study, mushroom with higher conversion of ergosterol to vitamin D will be screened from several edible and medicinal mushrooms with potential. Finally, the optimal temperature, moisture, dosage and irradiated time for conversion to vitamin D is also studied, and then using the technology of ultraviolet light irradiation to enhance the physiologically active of the product from solid fermentation by edible and medicinal mushroom.

Key words: ultraviolet light irradiation, edible and medicinal mushroom, ergosterol, vitamin D, solid fermentation