

Title of the Technology: Mushroom fortified instant noodles for better quality and nutritive value

General Part-1

Technology Code:- :

Organization Details.

Subject Matter Division : Horticultural Science

Organization Name : ICAR-Directorate of Mushroom Research ,Solan

Regional Station if any : : Not Applicable

AICRP name if any :
(AICRP)

Principal Inventor : Ms. Bindvi Arora

Principal Inventor
Designation: Scientist (Food Technology)

Principal Inventor Email : bindvi@gmail.com

Principal Inventor
Address : ICAR-Directorate of Mushroom Research, Chambaghat, Solan (HP)

Details of Inventors.

Principal Inventor : Ms. Bindvi Arora

Principal Inventor
Designation: : Scientist (Food Technology)

Principal Inventor Email : bindvi@gmail.com

Principal Inventor
Address : ICAR-Directorate of Mushroom Research, Chambaghat, Solan (HP)

Co-Inventor Name : Dr. Ved Prakash Sharma)

Co-Inventor Email : vpsharma93@gmail.com



Technology Name	:	Novel mushroom products- mushroom fortified instant noodles for quality and nutrition
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Technology Details.

Major resource	:	Product and Process
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Minor Subject Classification	:	Agriculture
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Minor Subject Sub Classification	:	Agricultural research
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Technology Group	:	Product technology
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Technology Related To	:	Novel mushroom product industry
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Complete Details of Technology:	Instant (quick cooking) noodles are the most common convenience food but are always under speculation for its nutritional value and effect on human health. Effect of nutrient supplementation of mushroom powder (2–10%) was evaluated on the nutritional, sensory and textural quality of instant noodles. Increase in cooking time, water absorption, and tensile strength as well as solid loss during cooking of noodles was observed with increasing mushroom powder supplementation, although the increase was significant only after 4% addition of mushroom powder ($p \leq .05$). Protein content increased remarkably with increasing fortification of mushroom powder. Significant increase in percent DPPH inhibition (70.11%) with only 2% mushroom powder addition was observed. Peak viscosity (RVA) also increased with increasing levels of mushroom powder upto 6%. Mushroom fortified noodles with enhanced protein (11.32%) and fiber (1.96%) content were successfully produced with optimum cooking quality and sensory characteristics at 4% level of addition of mushroom powder. The optimized product had 17.3 and 8.89% more protein and fiber as compared to control.
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Brief Description of Technology Including Salient Features:

Mushroom powder improved protein, fiber, and ash content of instant noodles keeping fat levels at par with control. Noodles with good acceptability were developed keeping the mushroom powder concentration limited to 4% in final formulation. Mushroom fortified noodles with

enhanced protein (11.32%) and fiber (1.96%) content were successfully produced with optimum cooking quality and sensory characteristics at 4% level of addition of mushroom powder. The optimized product had 17.3 and 8.89% more protein and fiber as compared to control.

Benefits/Utility :

The improvement in nutritional quality without affecting the taste and texture will be a significant value addition to this instant food. These protein and fiber rich ready to cook instant noodles can cater to the demands of ever increasing double income families. The product is both nutritionally superior as well as convenient to cook and consume. The product is novel as nutrition is complimented with convenience (instant cooking product) and high acceptability amongst children and adults.

Precaution With The Technology

Studies on keeping quality may be undertaken so that the product can be properly labeled for best before use.

Impact, If Adopted

Social Impact

These protein and fiber enriched instant noodles can be a promising source of nutrition for lower middle income group population of developing countries. With increasing urbanization, this product can be quite useful for meeting their demand for a healthy and convenient food item. This will help to meet their nutritional needs, especially of certain amino acids, vitamin D and B12 not found in the common noodles.

TargetUsers/Stake holders : Mushroom entrepreneurs interested in development of novel products

Technology Contact.

Name : Director

Email : director.mushroom@icar.gov.in

Phone Number : 01792-230451

Fax Number : 01792-231207

Address : ICAR-Directorate of Mushroom Research,Chambaghat,Solan,Solan-173213

Keyword for Technology : Mushroom, instant, noodles, protein, fiber



Technology Development Details Part-2

Project Details : Formulation and process optimization of mushroom products and byproducts utilization (DMR-12)
(Through which technology was developed)

Technology Validated by : Institute

Technology Validation Details.

Subject Matter Division : Horticultural Science

Organization Name(if within ICAR) : ICAR-Directorate of Mushroom Research, Solan

Organization Name(if outside ICAR,Please enter) : --

Year of Release/Adoption(YYYY) :

Country : India

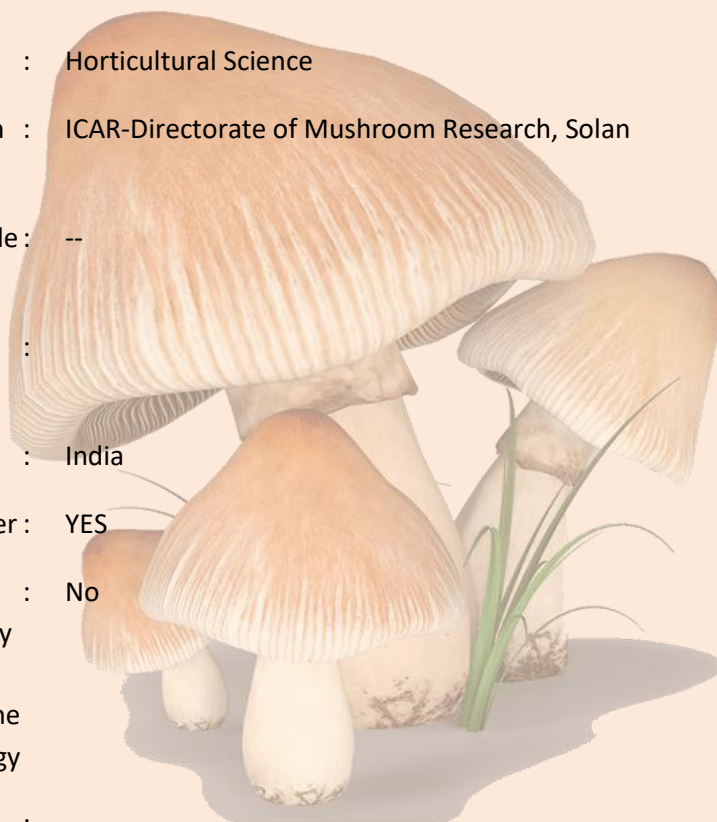
Through Technology Transfer : YES

Is There Any Other Process/Product/Technology that Is Critical Or Contributes To The Successful Use Of Technology : No

Minimum Temperature :

Maximum Temperature :

Average Temperature :



Applies To(Regional Differentiation)Inform Part-3

Location.

Zone(As per the planning commission) : Not Applicable

Sub zone(As per the planning commission) : Not Applicable

AgroEcological Zone(NBSS & LUP) : Not Applicable

AgroEcological Sub Zone(NBSS & LUP) : Not Applicable

State Name : Not Applicable

District Name : Not Applicable

Soil Type/Resource Type.

Soil Order :

Soil Sub Order :

Soil great group :

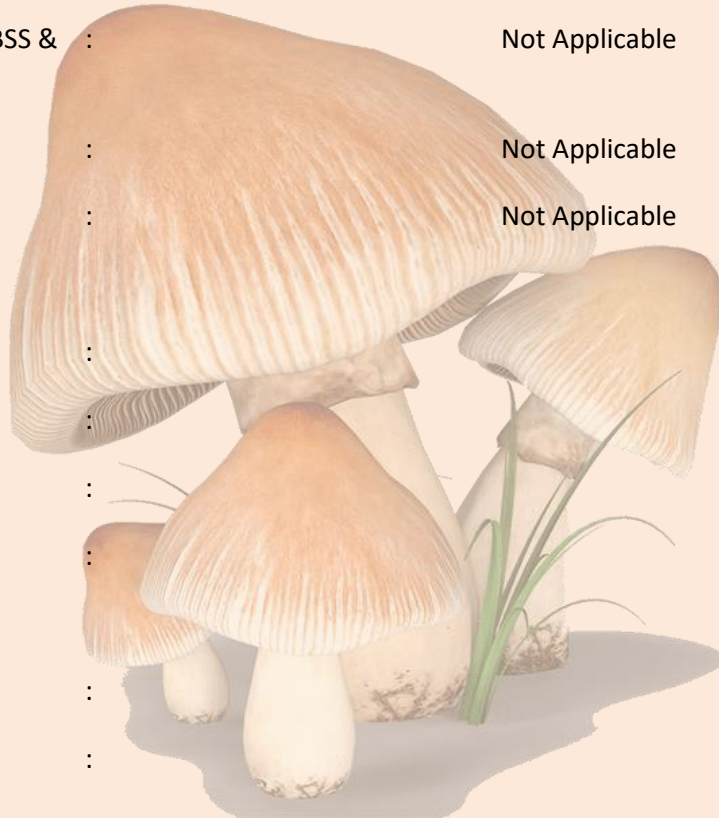
Soil great sub group :

Commodity Details.

Commodity :

Commodity Type :

Commodity Name :



Publication Related To Technology Part-4

Research Paper information

B Arora, S Kamal, VP Sharma. 2018. Nutritional and quality characteristics of instant noodles supplemented with oyster mushroom (*P. ostreatus*). Journal of Food Processing and Preservation 42 (2). DOI: 10.1111/jfpp.13521.