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St u y M t u it y Level f le u t u s C y st i i s u s 2 M le y ste M u sh m Em h size g le tic T ste N u t ie t C te t

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Keywords:

Introduction

room by racking vertically. Mushroom cultivation can help reduce vulnerability to poverty and strengthens livelihoods through the generation of a fast yielding and nutritious source of food and a reliable source of income, Mushrooms are being grown on commercial scale in many parts of the world, China produces 64 % of all edible mushrooms in the world and 85% of all oyster mushrooms all over the world (Pleurotus spp.) is also produced in China , These mushrooms have the ability to colonize and degrade a wide variety of lingo cellulosic wastes with relatively short cycle, Many studies have been conducted to test the ability of Pleurotus to grow on di erent agro wastes, such as cassava peels, cotton seed hulls, co ee husks, wheat straw, barely straw, saw dust and sinar straw tomato tu fruit pulp and peel, co ee pulp, sugarcane residues . These by-products are left to rot in the ýeld or are disposed of through burning. These residues associated with mycelium also have a great potential for use as fodder animal and

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... [12]. *P. ostreatus* ... *P. ostreatus* ... [13]. ... [14]. ... [15-21]. ... *Pleurotus cystidiosus-2* ...

Materials and methods

Location of experiment

Pleurotus cystidiosus-2 ... Ba ... 201 .

Extraction Procedure

... -2 ... 5% ... 5% ... (5 ... 100 ...). ... 40 . ... 500 ... -2 ... 3 ...

Quantitative Estimation

Determination of total protein: ... B ... **Determination of total lipid:** ... *et al.* (1 5).

Determination of crude fiber: ...

Determination of total ash: ... ( )

Determination of total carbohydrate: ... (/100 ...) = 100 (... + ... + ... + ...)

Results and Discussion

Organoleptic Taste or Sensory Evaluation

... 10 ... 1, ... -2 ... (... 2).

... 10 ... 2, ... -2 ... (... 3)

Overall Appearance	Colour	Crispiness	Flavour	Taste	Acceptability
4=Excellent	4=Excellent	5=Crispy	4=Excellent	4=Excellent	4=Highly Acceptable
¿ 3=Good	¿3=Good	4=Moderate Crispy	3=Good	3=Good	3=Acceptable
2=Fair	2=Fair	3=Less Crispy	2=Slightly Odorous	ü2=Fair	

a a , a a a a 10 a a . a 3, a a a -2 , a a a a , a , a a , a a a , a a a a a a a a (a 4).

a a , a a a a 10 a a . a 4, a a a - a -2 , a a a a , a , a a , a a a , a a a a a a a (a 5).

a a , a a a a 10 a a . a 5, a a a -2 , a a a a , a , a a , a a a , a a a a a a a (a 6).

a a , a a a a 10 a a . a 6, a a a -2 , a a a a , a , a a , a a a , a a a a a a a a a .

Nutritional analysis

Fiber Content

a 2(-2) - a , a a a a a 3 .13 , 3 .24 a 33. 5 (a a 1). 1, a -2(-2) - a , a a a a 3 .13 , 3 .24 a 33. 5 . a - a a .

Lipid content

a 2(-2) - a , a a a a 1.01 , 2.55 a 10.05 (a a 2).

2, a -2(-2) - a , a a a 1.01 , 2.55 a 10.05 . a a .

Protein Content

a 2(-2) - a , a a a 5.30 , 5.60 a 4.32 (a a 3).

3, a -2(-2) - a , a a a a 5.30 , 5.60 a 4.32 . a a .

Overall Appearance	Colour	Crispiness	Flavour	Taste	Acceptability
4=Excellent	4=Excellent	5=Crispy	4=Excellent	4=Excellent	4=Highly Acceptable
3=Good	3=Good	4=Moderate Crispy	3=Good	3=Good	3=Acceptable
2=Fair	2=Fair	3=Less Crispy	2=Slightly Odorous	2=Fair	2=Less Acceptable
1=Poor	1=Poor	2=Leathery	1=Bad odour	1=Poor	1=Not Acceptable
		1=Not Crispy			

Table 4: Score of Sensory Evaluation for Pre-mature PCYS-2 Mushroom Soup.

Overall Appearance	Colour	Crispiness	Flavour	Taste	Acceptability
4=Excellent	4=Excellent	5=Crispy	4=Excellent	4=Excellent	4=Highly Acceptable
3=Good	3=Good	4=Moderate Crispy	3=Good	3=Good	3=Acceptable
2=Fair	2=Fair	3=Less Crispy	2=Slightly Odorous	2=Fair	2=Less Acceptable
1=Poor	1=Poor	2=Leathery	1=Bad odour	1=Poor	1=Not Acceptable
		1=Not Crispy			

Table 5: Score of Sensory Evaluation for Mature PCYS-2 Mushroom Soup.

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, *Pleurotus cystidiosus* ...

P. cystidiosus ...

-2 ... -2. ...

Pleurotus ...

, *Pleurotus cystidiosus* ...

P. cystidiosus ...

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References

1. Emilio MI, Mar²a BG and Xos® AA (2019) Climatic and socioeconomic aspects of mushrooms. The case of Spain. Sustainability 11:1030.
2. Kakon AJ, Choudhury MBK (2015) Nutritional and medicinal perspective of Hericium mushroom. Bangladesh J Mushrooms 9:67-75.
3. Ngietich OK, Nyamangyoku OI, Rono J.J, Niyokuri AN, Izamuhaye JC (2013) Relative performance of oyster rmushroom (Pleurotus þorida) onagro-industrial and agricultural substrate. Intl J Agron Plant Prod 4:109-116.
4. Md. Nuruddin M, Begum A, Jahan SN, Bhattacharjya DK, Paul RK et.al (2017) E ect of di erent sawdust substrates on the growth, yield and proximate composition of white oyster mushroom (Pleurotus ostreatus). Biores Comm 3:397-410.
5. Ahmed SA, Kadam JA,. Mane VP, Patil SS and Baig MMV (2009) Biological e ciency and nutritional contents of Pleurotus þorida (Mont.) Singercultivated on di erent agro-wastes. Nat sci 7:44-48.
6. World Bank.World Development Reports. Oxford University Press, Inc. NewYork; 2004.
7. Chandha KL, Sharma SR (1995) Advances in horticulture mushroom, Malhotra Publication House, New Delhi
8. Chang S (1999) World production of cultivated edible and medicinal mushrooms in 1997 with emphasis on< i> Lentinus edodes</i>(Berk.) Sing, in China, Int. K

varieties. M.S. Thesis. Bangabundhu Sheikh Mujibur Rahman Agricultural University, Salna, Gazipur. 72 .

24. Amin SMR, Sarker NC, Khair A, Alam N, (2007) e ects of composition, age and sterilization techniques of mother culture on the growth and yield of volvariella volvacea (bull.) singer. Bangladesh J Mushroom 1: 18-22.

25. Ancona-Mendex ML, Sandoval C, Belmar-Casso R, Capetilo-Leal CM (2005) E ect of substrate and harvest on the amino acid proýle of oyster mushroom (Pleurotus ostreatus). J Food Comp Analysis 18: 447-450.

26. Alam N, Khan A, Hossain MS, Amin SMR, Khan LA (2007) Nutritional Analysis of dietary Mushroom Pleurotus þorida Eger and Pleurotus sajorcaj (Fr.) Singer. Bangladesh J Mushroom. 1: 1-7.

27. Alam SM, Saboohi R (2001) Importance of mushroom.

28. Ali MA, Hussain S, Nawaz R, Ahsan A, Siddiq M (2004) E ect of Pasteurization techniques on mycelial growth of Oyster Mushroom, Pleurotus SPP. J Agric Res 42: 201-205.

29. Akyuz M, Kirbag S (2010) Nutritive value of wild edible and cultured mushrooms. Turk J Biol 34: 97-102.

30. Alam N, Amin R, Khan A, Ara I, Shim M, et al. (2009) Comparative e ects of oyster mushroom on lipid proýle, liver and kidney function in hypercholesterolemic rats. Mycobiol 37: 37-42

31. Alam N, Amin R, Khan A, Ara I, Shim M, et al. (2008) Nutritional analysis of cultivated mushroom in Bangladesh Pleurotus ostreatus, Pleurotus sajor-caju, Pleurotus þoridai and Calocybe indica. Mycobiol 36:228-232.

32. Bauerova K, Paulouicova E, Mihalava D, Svik K, Ponist S. (2009) Study of new ways of supplementary and combinatory therapy of rheumatoid arthritis with immunomodulators Glucomannan and Immunoglukan in adjuvant arthritis. Toxicol Ind Health 25: 329-335.

33. Beltran-Garacia MJ, Estarron-Espinosa M, Ogura T (1997) Volatile compound secreated by the oyster mushroom (Pleurotus ostreatus) and its antibacterial activities. J Agric Food Chem 45:4049-4052.

34. Bernas E et al. (2006) Edible mushroom as a source of valuable nutritive constituents. Acta Sci Pol Technol Aliment 5: 5-20.

35. Bobek P, Galbavy S. (2001) E ect of pleuran (beta-glucan from Pleurotus ostreatus) on the antioxidant status of the organism and on dimethylhydrazine-induced precancerous lesions in rat colon. Br J Biomed Sci 58:164-168.

36. Brenneman JA, Guttman MC (1994) The edibility and cultivation of the oyster mushroom. Am Biol Teacher 56: 291-293.

37. Buswell JA and Chang ST(1993) Edible mushrooms: Attributes and applications. In: Genetics and breeding of edible mushrooms. Chang ST, Buswell JA and Miles PG (eds.) Gordon and Breach. Amsterdam 297-324.

38. Chang ST, Miles PG (1989) Edible mushrooms and their cultivation: CRC press: Baco Raton. FL 1-38.

39. Agrawal RP, Chopra A, Lavekar GS, Padhi MM, Srikanth N, et al. (2010) E ect of oyster mushroom on glycemia, lipid proýle and quality of life in type 2 diabetic patients. Aust J Herb Med 22: 50-54.

40. Ahmed M, Abdullah N, Ahmed KU, Bhuyan B (2013) Yield and nutritional composition of oyster mushroom strains newly introduced in Bangladesh. Pesq Agropec Bras 48: 197-202.

41. Alam N, Khan A, Hossain MS, Amin SMR, Khan LA (2007) Nutritional analysis of dietary mushroom Pleurotus þorida Eger. and Pleurotus sajor-caju (Fr.) Singer. Bangladesh J Mushroom 2: 1-7.

42. Amin SMR, Sarker NC, Khair A Alam N (2007) Detection of novel supplements of paddy straw substrates on oyster mushroom cultivation. Bangladesh J Mushroom 2: 18-22.

43. Association of O cial Analytical Chemists (AOAC). 2005. O cial Methods of Analysis of AOAC International. 16th ed.Gaithersberg, MD, USA: AOAC International.

44. Banik KS, Nandi R (2004) E ect of supplementation of rice straw with bagasse residual slurry manure on the yield, protein and mineral contents of oyster mushroom. Ind Crop Prod 20:311-319.

45. Adejoye OD, Adebayo-Tayo BC, Ogunjobi AA, Olaoye OA (2006) E ect of Carbon, Nitrogen and mineral sources on growth of Pleurotus þorida, Nigeria edible mushroom. Afr J Biotechnol 5:1355-1359.

46. Basyal E, Perker H, Yalinkilic MK and Temiz A (2003) Cultivation of oyster 80TJ/ur

2M5480029.48152.9(-)0480000341152.9(Nutritional04800E04800550073001210 02522.9