ISSN:1052-5378

Shiitake: Cultivated Mushroom

January 1970 - June 1996

Quick Bibliography Series no. QB 96-13
(Updates QB 90-54)

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aZ5071.N3 no.96-13

Search Strategy

SET	DESCRIPTION
1	SHIITAKE
2	LENTINULA

3	EDODES
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5	EDODES
6	LENTINULA EDODES OR LENTINUS EDODES
7	#1 OR #6
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9	#7 AND #8

Shiitake: Cultivated Mushroom

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1.
NAL Call No.: QR1.E9
Adapting liquid spawn Lentinus edodes to oak wood.
Leatham, G. F.; Griffin, T. J. *Appl-Microbiol-Biotech* v.20(5): p.360-363. (1984 Nov.)
Includes references.
Descriptors: lentinus-edodes; adaptation; oak; wood- extracts

2.
NAL Call No.: 385-AG8B
Alliinase-like enzymes in fruiting bodies of Lentinus edodes mushroom: their purification and substrate specificity.
Iwami, K.; Yasumoto, K. *Agric-Biol-Chem. Tokyo, Agricultural Chemical Society of Japan. Dec 1980. v. 44 (12) p. 3003- 3004.*
13 ref.

3.
NAL Call No.: 450-P5622
Anion activation of gamma-glutamyltransferase from fruiting bodies of [the edible mushroom] Lentinus edodes
Yasumoto, K.; Iwami, K.; Yonezawa, T.; Mitsuda, H. *Phytochemistry, 1977, 16 (9): 1351-1354. Ref.*

4.
NAL Call No.: SB299.P3D4
Antitumor activities of edible mushrooms by oral administration.
Mori, K.; Toyomasu, T.; Nanba, H.; Kuroda, H. *Dev-Crop-Sci. Amsterdam : Elsevier Scientific Pub. Co. 1987. v. 10 p. 1-6. ill.*
In the series analytic: Cultivating edible fungi / edited by P.J. Wuest, D.J. Royse and R.B. Beelman. Proceedings of an International Symposium, July 15-17, 1986, University Park, Pennsylvania.
Descriptors: lentinus-edodes; feeding; experiments; mice; neoplasms; suppression; medicinal-plants

5.
NAL Call No.: 448.3-AR23
Antitumor effect of virus-like particles from Lentinus edodes (Shiitake) Fungi on Ehrlich ascites carcinoma in mice.
Takehara, M.; Mori, K.; Kuida, K.; Hanawa, M. A. *Arch-Virol. Wien, Springer. 1981. v. 68 (3/4) p. 297-301. ill.*
13 ref.

6.
NAL Call No.: 107.6-K995
Antitumoric potentiality of enzyme preparations of pumpkin ascorbate oxidase and shiitake mushroom polyphenol oxidase
Omura, H.; Tmita, Y.; Murakami, H.; Nakamura, Y. *J-Fac-Agric- Kyushu-Univ, June 1974, 18 (3): 191-200. Ref.*

7.
NAL Call No.: 448.3-AR23
Antiviral activity of virus-like particles from Lentinus edodes (Shiitake) Fungi, mice infected with western equine encephalitis.
Takehara, M.; Kuida, K.; Mori, K. *Arch-Virol. Wien, Springer 1979. v. 59 (3) p. 269-274. ill.*
17 ref.

8.
NAL Call No.: TRANSL-31178
The biodegradation of softwood lignin and guaiacylglycerol-[beta]-guaiacyl ether by extra-cellular enzyme in Shiitake Lentinus edodes (Berk.) Sing.[S.l. : s.n., 1980?] 16 leaves : ill., Translated from Japanese.

9.
NAL Call No.: TD930.A32
Bulk treatment of substrate for the cultivation of Shiitake mushrooms (Lentinus edodes) on straw.
Levanon, D.; Rochschild, N.; Danai, O.; Masaphy, S. *Bioresource-Technol* v.45(1): p.63-64. (1993)
Includes references.
Descriptors: substrates; treatment; pasteurization; lentinula-edodes; cultivation; wheat-straw

10.
NAL Call No.: QK600.C5
The carbon, nitrogen source and growth factor requirements for mycelial growth of Lentinus edodes in submerged culture.
Huang, X. F. *Chen-Chun-Hsueh-Pao-Acta-Mycol-Sin* v.3(1): p.39-44. (1984 Feb.)
Includes references.

11.
NAL Call No.: 448.3-J824
Cell line authentication and genetic relatedness of lines of the shiitake mushroom, Lentinus edodes.
Royse, D. J.; Spear, M. C.; May, B. *J-Gen-Appl-Microbiol* v.29(3): p.205-216. ill. (1983 June)
Includes references.

12.
NAL Call No.: TRANSL-31237
Changes in the activities of extracellular enzymes during fruiting of the mushroom, Lentinus edodes.
Ishikawa, H. Madison, Wis. : Forest Products Laboratory, 1983. 16 leaves : ill., Translated from Japanese.

13.
NAL Call No.: 385-AG8B

Chaotropic ions in activation and protection of gamma- glutamyltransferase from fruiting bodies of Lentinus edodes Flavor substances in shiitake mushroom.
Iwami, K.; Yasumoto, K. *Agric-Biol-Chem. Tokyo, Agricultural Chemical Society of Japan. Mar 1982. v. 46 (3) p. 761-765. ill.*
Includes 13 ref.

14.
NAL Call No.: 302.8-T162
Characteristics of paper handsheets after combined biological pretreatments and conventional pulping of wheat straw.
Giovannozzi Sermanni, G.; D'Annibale, A.; Perani, C.; Porri, A.; Pastina, F.; Minelli, V.; Vitale, N.; Gelsomino, A. *Tappi- j* v.77(6): p.151-157. (1994 June)
Includes references.
Descriptors: pulp-and-paper-industry; wheat-straw; pulping; lentinula-edodes; enzymes; lignocellulose; paper; quality; literature-reviews

15.
NAL Call No.: 389.8-J825
Characteristics of quinolinate phosphoribosyltransferase from the "Shiitake" mushroom (Lentinus edodes)
Taguchi, H.; Iwai, K. *J-Nutr-Sci-Vitaminol, 1974, 20 (4): 283-291. Ref.*

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16.
NAL Call No.: QR1.F44
Characterization of the promoter region of a cell- adhesion protein gene derived from the basidiomycete Lentinus edodes.
Kondoh, O.; Shishido, K. *FEMS-micro-biol-lett* v.130(2/3): p.189-192. (1995 Aug.)
Includes references.
Descriptors: lentinula-edodes; adhesion; proteins; structural-genes; dna; promoters; transcription; nucleotide- sequences; amino-acid-sequences; transcription-initiation-sites; molecular-sequence-data; genbank; d50415

Abstract: An analysis of the 2 kb nucleotide sequence including the 5'-flanking region of a cell-adhesion protein- encoding gene (mfbA) isolated from the basidiomycete Lentinus edodes revealed that the promoter region contains a TATA box, a GC box, a CAAT box, a CT-rich sequence element, a TATA box, two CT-rich sequences, and a CAAT box, in that order, from upstream to downstream. Three major and three alternative transcriptional initiation sites were located 127, 129 and 131 nucleotides and 96, 193 and 197 nucleotides downstream from the downstream TATA box, and all the three major sites are positioned just in the most downstream CT-rich sequence. Three 16 bp unique sequences similar to the binding sites of Neurospora crassa transcriptional activator protein qa-1F (Baum et al. (1987) Expression of qa-1F activator protein: Identification of upstream binding sites in the qa gene cluster and localization of the DNA-binding domain. Mol. Cell. Biol. 7, 1256-1266) were present between the upstream TATA box and upstream CAAT box.

17.
NAL Call No.: 450-M99. 389.8-F7322
A chemically defined medium for the fruiting of Lentinus edodes [Fungi]. Gas-liquid chromatographic determination of lenthionine [flavor component] in shiitake mushroom (Lentinus edodes) with special reference to the relation between carbon disulfide and lenthionine
Leatham, G. F.; Ito, Y.; Toyoda, M.; Suzuki, H.; Iwaida, M. *Mycologia. J-Food-Sci, July/Aug 1978, 43*

(4): 1287-1289. Ref. v.75(5): p.905-908. ill. (1983 Sept.-1983 Oct.)
Includes references.

18.
NAL Call No.: 442.8-B5236
Cloning of Lentinus edodes mitochondrial DNA fragment capable of autonomous replication in Saccharomyces cerevisiae.
Katayose, Y.; Shishido, K.; Ohmasa, M. *Biochem-Biophys-Res- Commun* v.138(3): p.1110-1115. ill. (1986 Aug.)
Includes references.
Descriptors: lentinus-edodes; saccharomyces-cerevisiae; dna; replication; cloning; mitochondria

19.
NAL Call No.: 513-T64
Co-culture of shiitake (Lentinus edodes (Berk.) Sing.) and bacteria.
Nakamura, K.; Kishmoto, J.; Sakuno, T. *Tottori-Daigaku- Nogakubu-Kenkyu-Hokoku-Bull-Fac-Agric-Tottori-Univ. Tottoria : The University. Jan 1985. v. 37 p. 88-94.*
Includes 8 references.
Descriptors: lentinus-edodes; alcaligenes; bacillus; mushrooms; cultivation; mycelium; japan

20.
NAL Call No.: SB299.P3D4
Commercial cultivation of Shiitake in sawdust filled plastic bags.
Miller, M. W.; Jong, S. C. *Dev-Crop-Sci. Amsterdam : Elsevier Scientific Pub. Co. 1987. v. 10 p. 421-426. ill.*
In the series analytic: Cultivating edible fungi / edited by P.J. Wuest, D.J. Royse and R.B. Beelman. Proceedings of an International Symposium, July 15-17, 1986, University Park, Pennsylvania.
Descriptors: lentinus-edodes; cultivation; commercial- farming; substrates; sawdust; plastics; bags; usa

21.
NAL Call No.: TX541.D33
Comparison of the effect of extraction methods on the flavor volatile composition of Shiitake mushrooms (Lentinus Edodes) via GC/MS and GC/FTIR.
Charpentier, B. A.; Sevenants, M. R.; Sanders, R. A. *Dev- Food-Sci. Amsterdam : Elsevier Scientific Pub. Co. 1986. v. 12 p. 413-433.*
Paper presented at the Conference on "The Shelf Life of Foods and Beverages," 4th International Flavor Conference, July 23/26, 1985, Rhodes, Greece.
Descriptors: mushrooms; flavor-compounds; volatile- compounds; extraction; gas-chromatography; mass-spectrometry; fourier-transformation-infrared-spectroscopy

22.
NAL Call No.: 385-AG8B
Constituents of a cationic peptide-rich fraction of Lentinus edodes Analysis of edible mushrooms.
Aoyagi, Y.; Sugahara, T.; Hasegawa, T.; Suzuki, T. *Agric- Biol-Chem. Tokyo, Agricultural Chemical Society of Japan. Apr 1982. v. 46 (4) p. 987-991. ill.*
Includes 16 ref.

23.
NAL Call No.: TP1.P7
Consumption of substrate components by the cultivated mushroom Lentinus edodes during growth and fruiting on softwood and hardwood-based media.
Dare, P. H.; Clark, T. A.; Chu Chou, M. *Process-Biochem* v.23(5): p.156-160. (1988 Oct.)
Includes references.
Descriptors: lentinus-edodes; sawdust; pinus-radiata; beilschmiedia-tawa; growth; crop-yield; nutrient-uptake; nutrition-physiology; potassium

24.
NAL Call No.: QK600.M82
Convenient and effective methods for in vitro cultivation of mycelium and fruiting bodies of Lentinus edodes.
Tan, Y. H.; Moore, D. *Mycol-Res* v.96(pt.12): p.1077- 1084. (1992 Dec.)
Includes references.
Descriptors: lentinula-edodes; in-vitro-culture; mycelium; sexual-reproduction; inoculum; fruiting-potential; laboratory-methods; culture-media; growth

25.
NAL Call No.: TD930.A32
Correlated effects during the bioconversion of waste olive waters by Lentinus edodes.
Vinciguerra, V.; D'Annibale, A.; Delle Monache, G.; Giovannozzi Sermanni, G. *Bioresour-technol* v.51(2/3): p.221-226. (1995)
Includes references.
Descriptors: lentinula-edodes; waste-water-treatment; fermentation; biological-treatment; factory-effluents; oils-and- fats-industry; olives; olive-oil; decolorization; phenols; peroxidases; catechol-oxidase; waste-water

Abstract: Waste-olive-waters arising from the solid- liquid processing system were degraded in agitated liquid cultures of the white-rot fungus Lentinus edodes. About 45% of biodecolouration and 75% of total organic carbon reduction were achieved within 4 days. Over the same period, the content of total phenols was reduced by 66%. The release of exo-enzymes involved in the metabolism of phenolic compounds (phenol-oxidases and Mn-peroxidase) was greatly enhanced with respect to the control. A highly-significant correlation was observed between decolourization, total organic carbon and total phenols.

26.
NAL Call No.: SB353.I5
Cultivation of Lentinus edodes (Berk) Sing. on artificial medium [Mushrooms].
Suman, B. C.; Seth, P. K. *Indian-J-Mushrooms* v.8(1/2): p.44-46. (1982 Jan.-1982 Dec.)
Includes references.

27.
NAL Call No.: 99.9-F7662J
Cultivation of shiitake, the Japanese forest mushroom, on logs: a potential industry for the United States.
Leatham, G. F. *For-Prod-J. Madison, Wis., Forest Products Research Society Aug 1982. v. 32 (8) p. 29-35. ill.*
10 ref.
Descriptors: Japan; USA

28.
NAL Call No.: SB353.M8
Cultivation of the oyster and shiitake mushrooms on lignocellulosic wastes.
Pettipher, G. L. *Mushroom-J* (183): p.491, 493. ill. (1988 Mar.)
Descriptors: pleurotus-ostreatus; lentinus-edodes; cultivation-methods; substrates; lignocellulose; wastes; crop- yield

29.
NAL Call No.: SB1.H6
Cultivation of the shiitake mushroom Lentinus edodes, edible.
San Antonio, J. P. *Hortsci. Alexandria, Va., American Society for Horticultural Science. Apr 1981. v. 16 (2) p. 151-156. ill.*
18 ref.

30.

NAL Call No.: 382-SO12
Cultivation of the shiitake mushroom (Lentinus edodes) on lignocellulosic waste.
Pettipher, G. L. *J-Sci-Food-Agric* v.42(3): p.195-198. (1988)
Includes references.
Descriptors: mushrooms; cultivation; lignocellulose; waste-utilization

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31.
NAL Call No.: 421-P193
Dacne picta Crotch: a recently introduced pest of stored, dried shiitake mushrooms
Savary, W. E. *Pan-Pac-entomol* v.71(2): p.87-91. (1995 Apr.)
Includes references.
Descriptors: coleoptera; introduced-species; stored- products-pests; infestation; mushrooms; dried-foods; california

32.
NAL Call No.: S494.5.B563A382
Depolymerization of water-soluble lignocellulose by mycelium, culture broth and phenol-oxidases of Lentinus edodes.
Giovannozzi Sermanni, G.; D'Annibale, A.; Porri, A.; Perani, C. *Agro-Ind-Hi-Tech. Milan, Italy : Teknoscienze,. Nov/Dec 1992. v. 3 (6) p.39-42.*
Includes references.
Descriptors: lignocellulose; biodegradation; lentinula- edodes; oxidoreductases

33.
NAL Call No.: 290.9-AM32P
Design of a shiitake--mushroom packing line.
Wilcke, W. F.; Haugh, C. G.; Diehl, K. C.; Coale, C. W. *PAP- AMER-SOC-AGRIC-ENG. St. Joseph, Mich. : The Society. Summer 1989. (89-6059) 16 p.*
Paper presented at the Summer meeting, June 25-28, 1989, Quebec City, Quebec, Canada.
Descriptors: lentinula-edodes; packing; packaging

34.
NAL Call No.: 442.8-AN72
The detection of single-stranded RNA in an isometric virus-like particle from Shiitake mushroom [Lentinus edodes (Berk.) Sing.].
Shen, X.; Chen, M.; Shen, J.; Pan, Y.; Gong, Z. *Ann-Appl- Biol* v.122(2): p.271-277. (1993 Apr.)
Includes references.
Descriptors: lentinula-edodes; mycelium; virus-like- particles; coat-proteins; rna; isolation; physicochemical- properties

35.
NAL Call No.: 475-J824
Determination of vitamin D2 in shiitake mushroom (Lentinus edodes) by high-performance liquid chromatography.
Takamura, K.; Hoshino, H.; Sugahara, T.; Amano, H. *J- Chromatogr* v.545(1): p.201-204. (1991 May)
Includes references.
Descriptors: mushrooms; lentinula-edodes; ergocalciferol; determination; hplc

36.
NAL Call No.: SB353.5.S55D4

Determining the role of genetic improvement and cultural practices in increasing the yield of shiitake mushrooms in the highland of northern Thailand : final report.
Renu Pinthong. Chiang Mai, Thailand : Faculty of Agriculture, Chiang Mai University, [1988] ix, 70 leaves (some folded) : ill. (some col.), "July 1988."
Descriptors: Shiitake; Mushrooms,-Edible-Thailand; Mushrooms-culture-Thailand; Mushrooms,-Edible-Genetics

37.
NAL Call No.: 448.8-C162
Development and comparison of methods for measuring growth of filamentous fungi on wood.
Boyle, C. D.; Kropp, B. R. *Can-J-Microbiol* v.38(10): p.1053-1060. (1992 Oct.)
Includes references.
Descriptors: lentinula-edodes; pleurotus-sajor-caju; flammulina-velutipes; phanerochaete-chrysosporium; wood-chips; growth; chitin; fluorescein; fluorescein-diacetate

38.
NAL Call No.: 386.3-B54
Distribution and existence forms of vitamin D2 and ergosterol in Shiitake (Lentinus edodes).
Takeuchi, A.; Okano, T.; Sayamoto, M.; Sawamura, S.; Kobayashi, T. *Vitamins-J-Vitamin-Soc-Jap* v.58(12): p.589-595. ill. (1984 Dec.)
Includes 5 references.
Descriptors: mushrooms; composition; ergocalciferol; physico-chemical-properties

39.
NAL Call No.: S539.5.H5
Edible mushrooms with commercial potential in Ontario: 'shiitake' and 'oyster' cultivation Canada.
Patrick, Z. A.; Ingratta, F. J.; Macrae, R. M. *Highl-Agric- Res-Ont* v.6(2): p.1-3. ill. (1983 June)
Descriptors: Canada

40.
NAL Call No.: 464.9-P562
Effect of carbon and nitrogen sources in media on the hyphal interference between Lentinus edodes mushroom and some species of Trichoderma Antagonistic action.
Tokimoto, K.; Komatsu, M. *Ann-Phytopathol-Soc-Jap. Tokyo, Nihon Shokubutsu Byori Gakkai. Apr 1979. v. 45 (2) p. 261-264. ill.*
11 ref.

41.
NAL Call No.: QR1.M562
Effect of freezing and thawing on cell membranes of Lentinus edodes, the Shiitake mushroom.
Roquebert, M. F.; Bury, E. *World-j-microbiol-biotechnol* v.9(6): p.641-647. (1993 Nov.)
Includes references.
Descriptors: lentinula-edodes; cell-membranes; viability; freezing; thawing; glycerol; cell-ultrastructure

42.
NAL Call No.: RA1190.T62
The effect of lentinan on fertility and general reproductive performance of the rat Medicinal plants, mushroms, Lentinus edodes.
Cozens, D. D.; Masters, R. E.; Clark, R.; Offer, J. M. *Toxicol-Lett. Amsterdam, Elsevier/North-Holland. Sept 1981. v. 9 (1) p. 55-64.*
13 ref.

43.
NAL Call No.: QR1.M562
Effect of lignin-derived phenolic monomers on the growth of the edible mushrooms Lentinus

edodes, Pleurotus sajor-caju and Volvariella volvacea.
Cai, Y. J.; Buswell, J. A.; Chang, S. T. *World-j-microbiol- biotechnol* v.9(5): p.503-507. (1993 Sept.)
Includes references.
Descriptors: lentinula-edodes; pleurotus-sajor-caju; volvariella-volvacea; agricultural-wastes; lignin; phenols; tannins; growth; inhibition

44.
NAL Call No.: QR1.L47
Effect of lignin derived phenols and their methylated derivatives on the growth of Lentinus spp.
Shuen, S. K. *Lett-Appl-Microbiol* v.15(1): p.12-14. (1992 July)
Includes references.
Descriptors: lentinus; lentinus-lepideus; lentinula- edodes; phenolic-acids; lignin; antifungal-properties; methylation; lentinus-tigrinus

45.
NAL Call No.: 450-M99
Effect of low temperature shock treatment on the sporophore initiation, lipid profile and nutrient transport in Lentinula edodes.
Song, C. H.; Cho, K. Y.; Nair, H. G. *Mycologia* v.83(1): p.24-29. (1991 Jan.-1991 Feb.)
Includes references.
Descriptors: lentinula-edodes; mycelium; growth; sexual-reproduction; temperature; cold-shock; chemical-analysis; lipids; nutrient-transport; culture-media

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46.
NAL Call No.: QR1.F44
Effect of nutrient nitrogen and manganese on manganese peroxidase and laccase production by Lentinula (Lentinus) edodes.
Buswell, J. A.; Cai, Y. J.; Chang, S. *FEMS-micro-biol- lett* v.128(1): p.81-87. (1995 Apr.)
Includes references.
Descriptors: lentinula-edodes; nitrogen; manganese; lignin; peroxidases; laccase; biosynthesis; ligninolytic- microorganisms; lignin-peroxidase

Abstract: Lentinula (Lentinus) edodes, strain L54, produces manganese-dependent peroxidase (MnP) and laccase, but not lignin peroxidase, when grown on a defined medium with glucose as sole carbon source. MnP production is suppressed by nitrogen whereas highest levels of laccase were observed when the fungus was grown under high nitrogen (26 mM) conditions. Both the titre and time of appearance of MnP were affected by the concentration of Mn in the culture medium with highest enzyme levels recorded in cultures supplemented with 1.1 ppm Mn. Purified MnP from L. edodes L54 has an apparent Mr of 59000 and a pI of 5.6, and differs in several respects from a MnP isolated from L. edodes grown on a commercial wood substrate.

47.
NAL Call No.: 80-M972
Effect of Shiitake mushroom Lentinus edodes on plasma cholesterol levels in rats Cholesterol reducing mechanism.
Tokuda, S.; Kaneda, T.; International Congress on the Science and Cultivation of Edible Fungi, 1. F. 1. *Mushroom-Sci. Peterborough, Eng., International Society for Mushroom Science. 1979. v. 10 (pt.2) p. 793-796. ill.*
5 ref.

48.
NAL Call No.: 450-M99
Effect of spawn run time and substrate nutrition on yield and size of the Shiitake mushroom.
Royse, D. J. *Mycologia. Bronx, N.Y. : The New York Botanical Garden. Sept/Oct 1985. v.77 (5) p. 756-762.*
Includes references.
Descriptors: lentinus-edodes; edible-fungi; spawn; substrates; plant-nutrition

49.
NAL Call No.: 382-So12
Effects of gamma-irradiation on the flavour of dry shiitake (Lentinus edodes Sing).
Lai, C. L.; Yang, J. S.; Liu, M. S. *J-sci-food-agric* v.64(1): p.19-22. (1994)
Includes references.
Descriptors: mushrooms; dried-foods; food-processing; food-preservation; gamma-radiation; food-composition; volatile- compounds; flavor

Abstract: Dry shiitake (Lentinus edodes Sing) was irradiated with doses of 5 and 10 kGy using 60Co. The total volatile compounds were decreased by more than 50%. Irradiation increased the concentrations of some minor volatile compounds, such as 3-methyl-2-butanol and 1-hexanol. However, the major flavour compounds including eight-carbon and sulphur-containing compounds were significantly reduced. The ratio of the eight- carbon compounds, such as 3-octanone, 3-octanol and 1-octen-3-ol, to total volatiles decreased from 72% in the control to 21% in the 10 kGy irradiated samples. The unidentified compounds which may have been formed by decomposition or polymerization following irradiation of precursors need to be studied in greater depth.

50.
NAL Call No.: 448.3-AP5
Effects of genotype, spawn run time, and substrate formulation on biological efficiency of shiitake.
Royse, D. J.; Bahler, C. C. *Applied-Environ-Microbiol* v.52(6): p.1425-1427. (1986 Dec.)
Includes references.
Descriptors: agaricus; biological-production; productivity; genotypes; spawning; time; substrates; formulations; sawdust; wheat-bran; millets; size; growth- analysis; lentinula-edodes

51.
NAL Call No.: 381-J8223
Effects of pH value on the formation of volatiles of shiitake (Lentinus edodes), an edible mushroom.
Chen, C. C.; Chen, S. D.; Chen, J. J.; Wu, C. M. *J-Agric- Food-Chem* v.32(6): p.999-1001. ill. (1984 Sept.-1984 Oct.)
Includes 16 references.

52.
NAL Call No.: 22.5-AG823
Efficacy of fungicides on the control of Trichoderma spp. in sawdust cultivation of Shiitake.
Liao, Y. M. *Chung-hua-Nung-Yeh-Yen-Chiu-J-Agric-Res- China* v.34(3): p.329-340. ill. (1985 Sept.)
Includes references.
Descriptors: lentinus-edodes; trichoderma; fungicides; sawdust; cultural-methods

53.
NAL Call No.: 385-AG8B
Enzyme-catalized evolution of lenthionine from lentinic acid. [Lentinus edodes]
Yasumoto, K.; Iwami, K.; Mitsuda, H. *Agric-Biol-Chem, Dec 1971, 35 (13): 2070-2080. Ref.*

54.
NAL Call No.: QD1.A45
Enzymic formation of volatile compounds in Shiitake mushroom (Lentinus edodes sing.).
Chen, C. C.; Liu, S. E.; Wu, C. M.; Ho, C. T. *A-C-S-Symp-Ser- Am-Chem-Soc* (30): p.176-183. (1986)

Includes references.
Descriptors: lentinus-edodes; volatile-compounds; enzyme-activity

55.
NAL Call No.: 448.8-V81
Evidence for double-stranded RNA from polyhedral virus- like particles in Lentinus edodes (Berk.) Sing. [Fungi]
Ushiyama, R.; Nakai, Y.; Ikegami, M. *Virology, Apr 1977, 77 (2): 880-883. Ref.*

56.
NAL Call No.: SB353.5.S55N87-1989
Extension work on shiitake mushroom cultivation.
Nutalaya, S.; Pataragetvit, S.; Srimanee, S.; Sathaban Wichai Witthayasat lae Theknoloyi haeng Prathet Thai. Bangkok : Thailand Institute of Scientific and Technological Research, 1989. 37 leaves : ill., "Research project no. 23-18, Edible mushroom cultivation in Thailand."
Descriptors: Shiitake-Thailand; Cultivated-mushroom- Thailand

57.
NAL Call No.: 448.3-AP5
Extracellular enzymes produced by the cultivated mushroom Lentinus edodes during degradation of a lignocellulosic medium.
Leatham, G. F. *Applied-Environ-Microbiol* v.50(4): p.859- 867. (1985 Oct.)
Includes 48 references.
Descriptors: lentinus-edodes; lignocellulose; wood; oatmeal; enzymes; physico-chemical-properties

58.
NAL Call No.: QK600.K5
Fine structure of shiitake, Lentinus edodes (Berk.) Sing. I. Scanning electronmicroscopy on basidia and basidiospor es
Nakai, Y.; Ushiyama, R. *Rep-Tottori-Mycol-Inst, July 1974, 11: 1-6.*

59.
NAL Call No.: QK600.K5
Fine structure of shiitake, Lentinus edodes (Berk.) Sing. II. development of basidia and basidiospores
Nakai, Y.; Ushiyama, R. *Rep-Tottori-Mycol-Inst, July 1974, 11: 7-15. Ref.*

60.
NAL Call No.: QK600.K5
Fine structure of shiitake, Lentinus edodes (Berk.) Sing. III. germination of basidiospores
Nakai, Y.; Ushiyama, R. *Rep-Tottori-Mycol-Inst, July 1974, 11: 16-22. Ref.*

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61.
NAL Call No.: QK600.K5
Formation of callus-like aberrant fruit bodies on agar cultu res of Lentinus edodes (Berk.) Sing
Tokimoto, K. *Rep-Tottori-Mycol-Inst, July 1974, 11: 23-28. Ref.*

62.
NAL Call No.: 385-C172
Further study of the structure of lentinan, an anti-tumor polysaccharide from Lentinus edodes [an

edible mushroom]
Sasaki, T.; Takasuka, N. *Carbohydr-Res, Mar 1976, 47 (1): 99- 104. Ref.*

63.
NAL Call No.: 389.8-F7322
Gas-liquid chromatographic determination of carbon disulfide [residual fumigant] in shiitake mushroom (Lentinus edodes)
Toyoda, M.; Suzuki, H.; Ito, Y.; Iwaida, M. *J-Food-Sci, July/Aug 1978, 43 (4): 1290-1292. Ref.*

64.
NAL Call No.: 57.8-OR32
The ginseng of mushrooms [Japanese shiitake]
MacLatchie, S. *Org-Gard, Nov 1978, 25 (11): 59-61.*

65.
NAL Call No.: SB353.5.L46H37
Growing shiitake commercially : a practical manual for production of Japanese forest mushrooms.
Harris, B. 1. Madison, Wis. : Science Tech Publishers, 1986. viii, 72 p. : ill., Includes index.
Descriptors: Lentinus-edodes; Mushroom-culture

66.
NAL Call No.: S544.3.O5O5
Growing Shiitake mushrooms.
Anderson, S.; Marcouiller, D. *OSU-Ext-Facts-Coop-Ext-Serv- Okla-State-Univ. Stillwater, Okla. : The Service. July 1990. (5029) 6 p. ill.*
Includes references.
Descriptors: mushrooms; crop-production; oklahoma

67.
NAL Call No.: SB353.5.S55K69--1993
Growing shiitake mushrooms in a continental climate. 2nd ed.
Kozak, M. E.; Krawczyk, J. [Peshtigo, Wis.] : Field & Forest Products, c1993. iv, 112 p. : ill., Cover title.
Descriptors: Shiitake; Mushroom-culture; Mushrooms,- Edible

68.
NAL Call No.: 275.29-F66
Growing shiitake mushrooms (Lentinus edodes) in Florida.
Webb, R. S.; Kimbrough, J. W.; Olson, C.; Edwards, J. C. *Bull-Fla-Coop-Ext-Ser. Gainesville : Institute of Food and Agricultural Sciences, Cooperative Extension Service, University of Florida, 1971-. June 1995. (255) 7 p.*
Includes references.
Descriptors: lentinula-edodes; mushrooms; cultivation; crop-management; host-plants; quercus; wood-moisture; site- factors; harvesting; food-storage; drying; food-marketing; recipes; spawn; florida; usa

69. **NAL Call No.: Videocassette- no.857**
Growing shiitake mushrooms. Shiitake mushrooms.
North Carolina Agricultural Extension Program. Greensboro, N.C. : The Program, c1988. 1 videocassette (13 min., 18 sec.) : sd., col..
VHS.
Descriptors: Shiitake-North-Carolina/ Farms,-Small- Economic-aspects-North-Carolina

70.
NAL Call No.: QK600.B72
Growth and development of Lentinus edodes on a chemically defined medium.
Leatham, G. F. *Symp-Ser-Br-Mycol-Soc* (10): p.403-427. (1985)
Presented at the "Symposium on Developmental Biology of Higher Fungi," April 1984, Manchester,

England.
Descriptors: lentinus-edodes; growing-media; enzyme- activity

71.
NAL Call No.: 450-M99
Growth stimulation and lipid synthesis in Lentinus edodes.
Song, C. H.; Cho, K. Y.; Nair, N. G.; Vine, J. *Mycologia* v.81(4): p.514-522. (1989 July-1989 Aug.)
Includes references.
Descriptors: lentinus-edodes; mycelium; growth; lipid- content; fatty-acids; culture-media; nitrogen-content; vegetable- oils; surfactants; growth-promoters; lipids; synthesis; sporophores

72.
NAL Call No.: TX341.F662
Health foods and medicinal usages of mushrooms.
Mizuno, T.; Sakai, T.; Chihara, G. *Food-rev-int* v.11(1): p.69-81. (1995)
In the special issue: Mushrooms: The versatile fungus--food and medicinal properties: chemistry, biochemistry, biotechnology, and utilization / edited by T. Mizuno.
Descriptors: sugar-liquors; mushrooms; cookery; powders; extracts; foods; beverages; snacks; health-foods; drugs; drug-therapy; medicinal-properties; drug-effects; antiinfective- agents; antineoplastic-agents; immune-response; polysaccharides; defense-mechanisms; mode-of-action; antibodies; extruded-foods; literature-reviews; reishi; lentinan; shiitake; schizophyllan; krestin; maitake; yamabushiitake

73.
NAL Call No.: 475-J824
High-performance liquid chromatographic determination of cyclic sulfur compounds of Shiitake mushroom (Lentinus edodes Sing.).
Chen, C. C.; Ho, C. T. *J-Chromatogr* v.356(3): p.455-459. (1986 Apr.)
Includes 17 references.
Descriptors: lentinus-edodes; sulfur; determination; food-analysis; liquid-chromatography

74.
NAL Call No.: SB353.K8
How to grow forest mushroom (shiitake) for fun or profit. Shiitake.
Kuo, D. D.; Kuo, M. H. Naperville, Ill. : Mushroom Technology Corp., c1983. 108 p. : ill., Includes index.
Descriptors: Mushroom-culture; Mushrooms,-Edible; Forest-flora

75.
NAL Call No.: 382-T29
Hypocholesterolemic alkaloids of Lentinus edodes (Berk.) Sing. i. structure and synthesis of eritadenine
Kamiya, T.; Saito, Y.; Hashimoto, M.; Seki, H. *Tetrahedron, Feb 1972, 28 (4): 899-906. Ref.*

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76.
NAL Call No.: QR73.B5
Identification of shiitake genotypes by multilocus enzyme electrophoresis: catalog of lines.
Royse, D. J.; May, B. *Biochem-Genet* v.25(9/10): p.705- 716. (1987 Oct.)
Includes references.
Descriptors: fungi; genotypes; loci; enzyme-activity; genetic-variation; electrophoresis

77.
NAL Call No.: 451-B76
Identification of shiitake strains and some other Basidiomycetes: protein profile, esterase and acid phosphatase zymograms as an aid in taxonomy.
Itavaara, M. *Trans-Br-Mycol-Soc* v.91(pt.2): p.295-304. ill. (1988 Sept.)
Includes references.
Descriptors: basidiomycetes; strains; enzymology; chemotaxonomy; esterases; protein-content

78.
NAL Call No.: 381-J8223
Identification of sulfurous compounds of Shiitake mushroom (Lentinus edodes Sing.).
Chen, C. C.; Ho, C. T. *J-Agric-Food-Chem* v.34(5): p.830- 833. (1986 Sept.-1986 Oct.)
Includes references.
Descriptors: lentinus-edodes; volatile-compounds; sulfur; odor-abatement; chemical-analysis; identification

79.
NAL Call No.: 450-M99
Incidence and diversity of double-stranded RNA in Lentinula edodes.
Rytter, J. L.; Royse, D. J.; Romaine, C. P. *Mycologia* v.83(4): p.506-510. (1991 July-1991 Aug.)
Includes references.
Descriptors: lentinula-edodes; genetic-analysis; rna; plant-viruses; line-differences; growth; pathogenicity

80.
NAL Call No.: 99.9-J2793
Influence of the degree of substitution and the molecular weight of polysaccharide sulfonates upon the growth acceleration of edible mushrooms [Lentinus edodes, Pleurotus ostreatus, Flammulina velutipes].
Inaba, K.; Iizuka, Y.; Koshijima, T. *Mokuzai-Gakkaishi-J-Jap- Wood-Res-Soc* v.30(3): p.251-257. (1984)
Includes references.

81.
NAL Call No.: 450-M99
Influence of water potential on growth of shiitake mycelium.
Badham, E. R. *Mycologia* v.81(3): p.464-468. (1989 May- 1989 June)
Includes references.
Descriptors: lentinus-edodes; mycelium; growth-rate; water-potential

82.
NAL Call No.: QH426.C8
Inheritance of mitochondrial DNA in sexual crosses and protoplast cell fusions in Lentinula edodes.
Fukuda, M.; Harada, Y.; Imahori, S.; Fukumasa Nakai, Y.; Hayashi, Y. *Curr-genet* v.27(6): p.550-554. (1995)
Includes references.
Descriptors: lentinula-edodes; mitochondrial-dna; cytoplasmic-inheritance; mitochondrial-genetics; genetic-markers; restriction-fragment-length-polymorphism; protoplast-fusion; sexual-reproduction; crossing

Abstract: By using mitochondrial DNA (mtDNA) restriction fragment length polymorphisms (RFLPs) as genetic markers, the modes of mitochondrial inheritance in sexual crosses and protoplast cell fusions of the higher basidiomycete Lentinula edodes were examined. All newly established dikaryons from reciprocal crosses between compatible monokaryons carrying different mtDNA RFLP phenotypes retained mtDNA genotypes from one of the monokaryons, suggesting that mitochondrial inheritance is principally uniparental. In contrast, it was shown that recombinant mtDNA genomes arose in some dikaryons obtained after protoplast cell fusion. Based on these results, a possible mechanism for mitochondrial inheritance in L. edodes is discussed.

83.
NAL Call No.: 448.8-C162
Interactions between Lentinula edodes and pseudomonads.
Tsuneda, A.; Thorn, G. *Can-j-microbiol* v.40(11): p.937- 943. (1994 Nov.)
Includes references.
Descriptors: lentinula-edodes; pseudomonas-tolaasii; pseudomonas-fluorescens; pseudomonas-cepacia; pathogenicity; hyphae; growth; inhibition; antibacterial-properties; cytolysis; cell-walls; strain-differences; bacteriolysis

84.
NAL Call No.: QR1.M46
International Commission on the Taxonomy of Fungi (ICTF): name changes in fungi of microbiological, industrial and medical importance. 1.
Cannon, P. F. c. *Microbiol-Sci* v.3(6): p.168-171. (1986 June)
Descriptors: fungi; taxonomy; polyporus; epicoccum- purpurascens; aspergillus-candidus; saccharomyces-lactis; lentinus-edodes; mucor-pusillus

85.
NAL Call No.: QK617.T28
Intracellular appearance of a bacterium-like organism in Lentinus edodes Deformity of fruit-bodies, mushrooms.
Nakai, Y.; Ushiyama, R. *T'ai-wan-Yang-Ku-Taiwan-Mushrooms. Taipei, T'ai-wan yang ku tsa chi she. June 1981. v. 5 (1) p. 6-9. ill.*
10 ref.

86.
NAL Call No.: QK600.K5
Intracellular occurrence of virus-like particles from Lentinus edodes Fungi monokaryon of different cultural ages.
Ushiyama, R.; Nakai, Y.; Hayashi, K. *Kinoko-Kenkyujo-Kenky- Hokoku-Rep-Tottori-Mycol-Inst. Tottori, The Institute. Aug 1980. (18) p. 89-94. ill.*
7 ref.

87.
NAL Call No.: QR360.A1J6
Intracellular virus-like particles in Lentinus edodes [Fungi].
Ushiyama, R.; Nakai, Y. *J-Gen-Virol. Cambridge, Cambridge University Press. Feb 1980. v. 46 (pt.2) p. 507-509. ill.*
13 ref.

88.
NAL Call No.: 385-AG8B
Isolation and identification of nicotianine and cystathionine from Lentinus edodes [Shiitake mushrooms]
Aoyagi, Y.; Sasaki, H.; Sugahara, T. *Agric-Biol-Chem, Jan 1977, 41 (1): 213-214.*

89.
NAL Call No.: 385-AG8B
Isolation and identification of saccharopine from Lentinus edodes [in dried Shiitake, Fungi]
Aoyagi, Y.; Sasaki, H.; Sugahara, T. *Agric-Biol-Chem, Oct 1978, 42 (10): 1941-1942.*

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90.
NAL Call No.: 450-J8223
Karyological studies on Lentinus edodes, a basidiomycete
Tanaka, R.; Koga, I. *J-Jap-Bot, Sept 1972, 47 (10): 289- 296.*

91.
NAL Call No.: 475-EX7
Lentinacin: a new hypocholesterolemic substance in Lentinus edodes
Chibata, I.; Okumura, K.; Takeyama, S.; Kotera, K. *Experientia, Dec 15, 1969, 25 (12): 1237-1238.*

92.
NAL Call No.: 442.8-L62
Lentysine: a new hypolipidemic agent from a mushroom. [Lentinus edodes]
Rokujo, T.; Kikuchi, H.; Tensho, A.; Tsukitani, Y.; Takenawa, T.; Yoshida, K.; Kamiya, T. *Life-Sci, Apr 8, 1970, 9 (7): 379- 385.*

93.
NAL Call No.: TA419.W6
Lignin degradation capabilities of Pleurotus ostreatus, Lentinula edodes and Phanerochaete chrysosporium.
Oriaran, T. P.; Labosky, P. Jr.; Royse, D. J. *Wood-Fiber-Sci- J-Soc-Wood-Sci-Technol* v.21(2): p.183-192. (1989 Apr.)
Includes references.
Descriptors: hardwoods; softwoods; wood-chips; lignin; biodegradation; pulping; pleurotus-ostreatus; basidiomycetes; edible-fungi; wood-destroying-fungi; weight-losses; incubation- duration; wood-extractives; cellulose; pennsylvania; biopulping; delignification

94.
NAL Call No.: QR1.E9
The ligninolytic activities of Lentinus edodes and Phanerochaete chrysosporium.
Leatham, G. F. *Appl-Microbiol-Biotech* v.24(1): p.51-58. (1986 Apr.)
Includes references.
Descriptors: fungi; lignolytic-microorganisms; lentinus-edodes

95.
NAL Call No.: 388-J822
Lipids in cap and stalk of shiitake mushroom studies on the lipids of shiitake. I.
Hashiguchi, M.; Itoh, S.; Tsuyuki, H. *Nippon-Shokuhin-Kogyo- Gakkaishi-J-Jap-Soc-Food-Sci-Tech* v.31(7): p.436-442. (1984)
Includes 20 references.
Descriptors: edible-fungi; lentinus-edodes; composition; lipids

96.
NAL Call No.: 448.3-AP5
Mannitol metabolism in Lentinus edodes, the shiitake mushroom.
Kulkarni, R. K. *Appl-Environ-Microbiol* v.56(1): p.250- 253. (1990 Jan.)
Includes references.
Descriptors: lentinus-edodes; mannitol; metabolism; enzymes; enzyme-activity; developmental-stages; biochemical- pathways

Abstract: Mannitol metabolism was evaluated in fruiting bodies of Lentinus edodes. Cell extracts were prepared from fruiting bodies, and key enzymes involved in mannitol metabolism were assayed, including hexokinase, mannitol dehydrogenase, mannitol-1-phosphate dehydrogenase, mannitol-1-phosphatase, and fructose-6- phosphatase. Mannitol dehydrogenase, fructose-6- phosphatase, mannitol-1-phosphatase, and hexokinase activities were found in extracts of fruiting bodies. However, mannitol-1- phosphate dehydrogenase activity was not detected. Mycelial cultures were grown in an enriched liquid medium,

and enzymes of the mannitol cycle were assayed in cell extracts of rapidly growing cells. Mannitol-1-phosphate dehydrogenase activity was also not found in mycelial extracts. Hence, evidence for a complete mannitol cycle both in vegetative mycelia and during mushroom development was lacking. The pathway of mannitol synthesis in L. edodes appears to utilize fructose as an intermediate.

97.
NAL Call No.: HD1775.F6F6
Marketing alternatives for north Florida Shiitake mushroom producers.
Degner, R. L.; Williams, M. B. *FAMRC-Ind-Rep. Gainesville, Fla. : Fla. Agricultural Market Research Center. Nov 1991. (91-1) 19 p.*
Includes references.
Descriptors: mushrooms; market-research; retail- marketing; florida

98.
NAL Call No.: QK600.E9
Mating-type incompatibility between commercial strains of Lentinula edodes.
Fox, H. M.; Burden, J.; Chang, S. T.; Peberdy, J. F. *Exp- mycol* v.18(2): p.95-102. (1994 June)
Includes references.
Descriptors: lentinula-edodes; loci; alleles; mating; strains; wild-strains; incompatibility; mating-systems; recombination; a-alleles; b-alleles; commercial-strains

99.
NAL Call No.: 448.2-Um1
Medicinal and therapeutic value of the shiitake mushroom.
Jong, S. C.; Birmingham, J. M. *Adv-appl-microbiol. San Diego, Calif. : Academic Press. 1993. v. 39 p. 153-184.*
Includes references.
Descriptors: lentinula-edodes; medicinal-properties; pharmaceutical-products; plant-extracts; literature-reviews

100.
NAL Call No.: 80-M972
The mode of cytoplasmic separation between a basidiospore and a sterigma in shiitake mushroom, Lentinus edodes.
Nakai, Y.; International Congress on the Science and Cultivation of Edible Fungi, 1. F. 1. *Mushroom-Sci. Peterborough, Eng., International Society for Mushroom Science. 1979. v. 10 (pt.1) p. 191-199. ill.*
13 ref.

101.
NAL Call No.: 470-C16C
Molecular evidence supports the separation of Lentinula edodes from Lentinus and related genera.
Molina, F. I.; Shen, P.; Jong, S. C.; Orikono, K. *Can-J-Bot- J-Can-Bot* v.70(12): p.2446-2452. (1992 Dec.)
Includes references.
Descriptors: aphyllophorales; pleurotus; lentinula- edodes; lentinus; ribosomal-dna; ribosomal-rna; genes; chemotaxonomy; identification; restriction-fragment-length- polymorphism; pleurotus-levis; lentinus-tigrinus; neolentinus- lepideus

102.
NAL Call No.: S501.2.W47
Money does grow on these 'trees'.
Whatley, B. T. *Booker T. Whatley's handbook on how to make $100,000 farming 25 acres : with special plans for prospering on 10 to 200 acres / by Booker T. Whatley and the editors of the New farm ; edited by George DeVault ... [et al.]. Emmaus, Pa. : Regenerative Agriculture Association, c1987. p. 74-77. ill.*
Includes references.
Descriptors: mushrooms; cultural-methods; farm- woodlands; logs; shiitake-mushrooms

103.
NAL Call No.: S541.5.O3O54
Mushroom of the fallen tree.
Tipton, D. *Ohio-21-Coll-Agric-Ohio-Coop-Ext-Serv-Ohio-Agric- Res-Dev-Cent-Ohio-State-Univ* v.1(1): p.22-25. ill. (1987 Mar.)
Descriptors: mushrooms; logs; cultural-methods; ohio; shiitake

104.
NAL Call No.: TX558.M9M6-1974
Mushrooms as health foods. 1st ed.
Mori, K. Tokyo : Japan Publications; 1974. 88 p. : ill., Translation of Shiitake kenkoho.
Descriptors: Mushrooms,-Edible

105.
NAL Call No.: 1-EX892EX
The new fungus among us.
Turner, S. *Ext-Rev-U-S-Dep-Agric* v.59(2): p.18-20. ill. (1988 Spring-1988 Summer)
Descriptors: mushrooms; extension-education; cultivation; mushroom-spawn; ohio; shiitake

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106.
NAL Call No.: 385-AG8B
A new sulfur-containing peptide from Lentinus edodes acting as a precursor for lenthionine
Yasumoto, K.; Iwami, K.; Mitsuda, H. *Agric-Biol-Chem, Dec 1971, 35 (13): 2059-2069. Ref.*

107.
NAL Call No.: TD930.A32
A note on the utilisation of spent mushroom composts in animal feeds.
Zhang, C. K.; Gong, F.; Li, D. S. *Bioresour-technol* v.52(1): p.89-91. (1995)
Includes references.
Descriptors: mushroom-compost; fermentation; aspergillus; yeasts; crude-protein; protein-content; crude-fiber; fiber-content; in-vitro-digestibility; waste-utilization; fodder; spent-mushroom-substrate; endomycopsis-fibuliger

Abstract: An Aspergillus species (Aspergillus candidus 362) was isolated from contaminated spent Lentinus edodes compost. Using synchronous saccharification and fermentation (SSF) by the isolate and a yeast strain (Endomycopsis fibuliger 253) under solid-state conditions, the crude protein contents were increased from 24.1 to 32.3% and from 28.4 to 36.7% for Pleurotus ostreatus- and Lentinus edodes-spent-compost media, respectively. The crude fibre contents of the composts were substantially decreased. After fermentation the in vitro digestibility of crude protein was improved to 70%. The total and essential amino acid contents made up 73.3 and 37.1% of the crude protein, respectively. The fermented spent composts media were highly-nutritious fodder for poultry and animals.

108.
NAL Call No.: 382-C4223
A novel synthesis of eritadenine: reactions of some purines with gamma-lactones. [Lentinus edodes]
Okumura, K.; Oine, T.; Yamada, Y.; Tomie, M.; Nagura, T.; Kawazu, M.; Mizoguchi, T.; Inoue, I. *Chem-Commun, Sept 9, 1970, 17: 1045-1046.*

109.
NAL Call No.: QD341.A2N8

Nucleotide sequence of the 5.8S ribosomal RNA gene of Lentinula edodes.
Kwan, H. S.; Pang, K. M.; Chiu, S. W.; Cheng, S. C. *Nucleic- Acids-Res* v.20(3): p.610. (1992 Feb.)
Includes references.
Descriptors: lentinula-edodes; ribosomal-rna; genes; nucleotide-sequences; comparisons; molecular-sequence-data; embl; x63130

110.
NAL Call No.: 44.8-J824
Nutritional and medicinal value of specialty mushrooms.
Breene, W. M. *J-Food-Prot* v.53(10): p.883-894. (1990 Oct.)
Includes 81 references.
Descriptors: mushrooms; medicinal-properties; nutritive-value; moisture; protein-content; dietary-fat; fiber- content; carbohydrates; mineral-content; vitamin-content; disease-prevention

Abstract: Although the button mushroom (Agaricus bisporus) accounts for slightly over half of total world mushroom production, specialty mushrooms, e.g., shiitake (Lentinula edodes), straw (Volvariella volvacea), oyster (Pleurotus spp.), and enokitake (Flammulina velutipes), are increasing in popularity. These species contain moderate quantities of good quality protein and are good sources of dietary fiber, vitamin C, B vitamins, and minerals. Lipid levels are low, but unsaturated to saturated fatty acid ratios are high (about 2.0 - 4.5:1). Some species (e.g., shiitake) accumulate cadmium and selenium and other heavy metals, and some may contain toxic substances such as the heat labile cardiotoxic proteins volvatoxin in the straw mushroom and flammutoxin in enokitake. Extensive clinical studies, primarily in Japan, have clearly demonstrated that a number of species have medicinal and therapeutic value, by injection or oral administration, in the prevention/treatment of cancer, viral diseases (influenza, polio), hypercholesterolemia, blood platelet aggregation, and hypertension. Most of the studies have focused on shiitake, enokitake, Pleurotus spp., and on the generally nonculinary Ganoderma spp. Many of the active substances which include polysaccharides (e.g., beta-glucans), nucleic acid derivatives (the hypocholesterolemic eritadenine), lipids, peptides, proteins, and glycoproteins, have been isolated and identified. Some of the mechanisms of activity have been elucidated, e.g., antiviral activity via stimulation of interferon production in the host. Additional medical claims less well documented may nonetheless have some validity and merit further study.

111.
NAL Call No.: 22.5-AG823
Occurrence and life cycle of stemonitis splendens on the logs of shiitake.
Liao, Y. M. *Chung-hua-Nung-Yeh-Yen-Chiu-J-Agric-Res- China* v.35(4): p.511-520. ill. (1986 Dec.)
Includes references.
Descriptors: engelhardtia; logs; infection; fungi; taiwan; engelhardtia-roxburghiana; myxomycetes

112.
NAL Call No.: 450-M99
Phylogenetic diversity in shiitake inferred from nuclear ribosomal DNA sequences.
Hibbett, D. S.; Fukumasa Nakai, Y.; Tsuneda, A.; Donoghue, M. J. *Mycologia* v.87(5): p.618-638. (1995 Sept.-1995 Oct.)
Includes references.
Descriptors: lentinula-edodes; lentinula; phylogeny; geographical-races; genetic-analysis; dna; nucleotide-sequences; ribosomal-rna; lentinula-lateritia; phylograms; lentinula- novaezelandieae; molecular-sequence-data

113.
NAL Call No.: SB353.I57-1981
Physiology and ecology of lentinus edodes (Berk.) Sing.
Han, Y. H.; Ueng, W. T.; Chen, L. C.; Cheng, S. *Proceedings of the Eleventh International Scientific Congress on the Cultivation of Edible Fungi, Australia, 1981 / edited by N.G. Nair, A.D. Clift. Sydney : [s.n.], 1981. v. 2 p. 623- 658.*
Includes references.

Descriptors: lentinus-edodes; cultivation-methods; culture-media; sawdust; mycelium; growth; fruiting; yields

114.
NAL Call No.: 22.5-AG823
Preliminary study of the characteristics of Lentinus edodes Mushroom varieties originated in Taiwan.
Liao, Y. M. *Chung-hua-Nung-Yeh-Yen-Chiu-J-Agric-Res-China. Taichung, T'ai-wan sheng nung yeh shih yen so. Mar 1981. v. 30 (1) p. 63-70. ill.*
14 ref.
Descriptors: Taiwan

115.
NAL Call No.: 385-AG8B
Presence and some properties of alkaline ribonuclease in the fruit body of Lentinus edodes [Shii-take mushrooms].
Kurosawa, S. I.; Higashioka, H.; Uehara, H. *Agric-Biol- Chem* v.47(8): p.1917-1919. (1983 Aug.)
Includes references.

116.
NAL Call No.: SB353.5.S55N38--1993
Proceedings of the National Shiitake Mushroom Symposium : Huntsville, Alabama, November 1-3, 1993.
Frost, L.; National Shiitake Mushroom Symposium (1993 : Huntsville, A. Normal, Ala. : Cooperative Extension Program, School of Agricultural and Environmental Sciences, Alabama A&M University, [1994?] iv, 224 p. : ill., 1 map, "Sponsored by: Alabama A&M University ... [et al.].
Descriptors: Shiitake-Congresses; Mushrrom-industry- Congresses

117.
NAL Call No.: S544.3.N6N62
Producing shiitake mushrooms: a guide for small-scale outdoor cultivation on logs.
Davis, J. M. *AG-NC-Agric-Ext-Serv. Raleigh : North Carolina Agricultural Extension Service,. Mar 1993. (478) 8 p.*
Descriptors: lentinula-edodes; cultivation; crop-production

118.
NAL Call No.: S67.P82
Producing shiitake: the fancy forest mushroom.
Koske, T. J. *Pub-La-Coop-Ext-Serv. [Baton Rouge, La.?] : Cooperative Extension Service, Center for Agricultural Sciences and Rural Development, Louisiana State University & Agricultural & Mechanical College,. Aug 1992. (2492) 6 p.*
Descriptors: agaricus-bisporus; food-production; logs; spawn; mycelium; moisture-content; fruiting; production-costs

119.
NAL Call No.: TD930.A32
The production of exo-enzymes by Lentinus edodes and Pleurotus ostreatus and their use for upgrading corn straw.
Sermanni, G. G.; D'Annibale, A.; Di Lena, G.; Vitale, N. S.; Di Mattia, E.; Minelli, V. *Bioresour-technol* v.48(2): p.173-178. (1994)
Includes references.
Descriptors: lentinula-edodes; pleurotus-ostreatus; monophenol-monooxygenase; cellulase; maize-straw; chemical- composition; digestibility; fermentation; pulping; paper; production; biotechnology; waste-utilization; italy; xylanase; delignification; submerged-fermentation; paper-handsheets

120.

NAL Call No.: TP248.27.F86F76-1992
Production of specialty mushrooms in North America: shiitake and morels.
Leonard, T. J.; Volk, T. J. *Frontiers in industrial mycology / edited by Gary F Leatham. New York : Chapman & Hall, 1992.. p. 1-23.*
Includes references.
Descriptors: lentinula-edodes; morchella; cultivation; north-america

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121.
NAL Call No.: 450-P699
Promotion of rooting in Azukia cuttings by possible glycoproteins extracted from Lentinus edodes culture.
Mitsuhashi Kato, M.; Maeda, H.; Fujii, T. *Plant-Cell-Physiol. Kyoto : Japanese Society of Plant Physiologists. Mar 1985. v.26 (2) p. 221-228.*
Includes references.
Descriptors: lentinus-edodes; edible-fungi; rooting; cuttings; plant-extracts; glycoproteins

122.
NAL Call No.: TX501.F6
Propagation of Lentinus edodes [Fungi] on modified malt sprouts medium for amylase production.
El Zalaki, M. E.; Hamza, M. A. *Food-Chem. Barking, Essex, Applied Science Publishers. Apr/June 1980. v. 5 (2) p. 131-138. ill.*
10 ref.

123.
NAL Call No.: 385-AG8B
Properties of gamma-glytamyltransferase from [an edible mushroom] Lentinus edodes
Iwami, K.; Yasumoto, K.; Nakamura, K.; Mitsuda, H. *Agric- Biol-Chem, Oct 1975, 39 (10): 1933-1940. Ref.*

124.
NAL Call No.: TX501.F6
Properties of Lentinus edodes amylases and amino acid content of the mycelium Edible mushroom.
El Zalaki, M. E.; Hamza, M. A. *Food-Chem. Barking, Essex, Applied Science Publishers. Oct 1979. v. 4 (4) p. 293-302. ill.*
10 ref.

125.
NAL Call No.: 99.9-J2793
Properties of sulfonated monosaccharides and their acceleration effect on the growth of edible mushrooms [Lentinus edodes, Pleurotus ostreatus, Flammulina velutipes].
Inaba, K.; Azuma, J.; Iizuka, Y.; Koshijima, T. *Mokuzai- Gakkaishi-J-Jap-Wood-Res-Soc* v.29(9): p.621-628. (1983)
Includes references.

126.
NAL Call No.: QR1.F44
Purification and characterization of type I DNA topoisomerase from Lentinus edodes.
Kono, H.; Habuka, N.; Shishido, K. *F-E-M-S-Microbiol-Lett- Fed-Eur-Microbiol-Soc* v.37(2): p.169-172. ill. (1986 Nov.)
Includes references.

Descriptors: lentinus-edodes; dna; isomerases; purification; fungi

127.
NAL Call No.: 389.8-J825
Purification and properties of quinolinate phosphoribosyltransferase from the "Shiitake" mushroom (Lentinus edodes)
Taguchi, H.; Iwai, K. *J-Nutr-Sci-Vitaminol, 1974, 20 (4): 269-281. Ref.*

128.
NAL Call No.: 385-AG8B
Purification and some properties of carboxyl proteinase in extract from Lentinus edodes fruit-bodies.
Terashita, T.; Oda, K.; Kono, M.; Murao, S. *Agric-Biol- Chem* v.48(11): p.2639-2645. ill. (1984 Nov.)
Includes 26 references.
Descriptors: lentinus-edodes; edible-fungi; proteases; purification

129.
NAL Call No.: 385-AG8B
Purification and some properties of carboxyl proteinase in mycelium of Lentinus edodes Effect on fruit-body formation of the edible mushroom.
Terashita, T.; Oda, K.; Kono, M.; Murao, S. *Agric-Biol-Chem. Tokyo, Agricultural Chemical Society of Japan. Sept 1981. v. 45 (9) p. 1929-1935. ill.*
19 ref.

130.
NAL Call No.: 385-AG8B
Purification and some properties of metal proteinases from Lentinus edodes.
Terashita, T.; Oda, K.; Kono, M.; Murao, S. *Agric-Biol- Chem* v.49(8): p.2293-2300. ill. (1985 Aug.)
Includes 19 references.
Descriptors: lentinus-edodes; enzyme-activity; purification; mycelium; fruiting

131.
NAL Call No.: 385-AG8B
Purification and some properties of nucleases from shiitake, Lentinus edodes Edible mushroom.
Endo, K.; Umeyama, Y.; Nakajima, J.; Kawai, H. *Agric-Biol- Chem. Tokyo, Agricultural Chemical Society of Japan. July 1980. v. 44 (7) p. 1545-1551. ill.*
13 ref.

132.
NAL Call No.: QR1.E9
Recycling of spent shiitake substrate for production of the oyster mushroom, Pleurotus sajor-caju.
Royse, D. J. *Appl-Microbiol-Biotech* v.38(2): p.179-182. (1992 Nov.)
Includes references.
Descriptors: pleurotus-sajor-caju; growing-media; recycling; lentinula-edodes; waste-utilization; calcium- carbonate; soybeans; supplements; spawn; crop-yield; size; biological-efficiency

Abstract: Pleurotus sajor-caju was produced on a basal medium containing "spent" shiitake substrate plus 10% wheat bran and 10% millet. An analysis of the fibrous composition of the spent shiitake substrate revealed that 85% of the original hemicellulose, 44% of the original cellulose and 77% of the original lignin was not consumed during production of a full crop (78% biological efficiency) of shiitake (63-day harvest period). To produce P. sajor-caju, the spent shiitake substrate was ground, air dried, supplemented, pasteurized with live steam and spawned. Highest yields (79% biological efficiency) of P. sajor- caju were obtained by supplementing the spent shiitake basal medium with 12% soybean and 1% CaCO3. Increases in percentage biological efficiency and mushroom size were positively correlated with increasing levels of CaCO3 added to the basal medium.

133.
NAL Call No.: QK617.T28
Relation between mycelium quantity and fruit-body yield in Lentinus edodes bed-logs Mushrooms.
Tokimoto, K.; Fukuda, M. *T'ai-wan-Yang-Ku-Taiwan-Mushrooms. Taipei, T'ai-wan yang ku tsa chi she. June 1981. v. 5 (1) p. 1-5. ill.*
9 ref.

134.
NAL Call No.: QR1.E9
The relationship between phenol oxidase activity, soluble protein and erosterol with growth of Lentinus species in oak sawdust logs.
Okeke, B. C.; Paterson, A.; Smith, J. E.; Watson Craik, I. A. *Appl-microbiol-biotechnol* v.41(1): p.28-31. (1994 Mar.)
Includes references.
Descriptors: lentinula-edodes; monophenol- monooxygenase; enzyme-activity; protein-content; ergosterol; biomass-production; growth; sawdust; fermentation; synthetic-logs

Abstract: The growth of four strains of the shiitake mushroom Lentinus edodes in solid substrate fermentation in synthetic oak sawdust logs was studied over a 14-week period. Total extracellular phenol oxidase activity and soluble protein were monitored and biomass estimated as the ergosterol content of the fermented sawdust. It was observed that two of the strains had a similar pattern of phenol oxidase activity with two cycles with maxima at 2 and 8 weeks of mycelial growth prior to fruiting. With the other two strains there was a maximum at week 4. For each strain, phenol oxidase activity increased with the cold shock used to induce fruiting. Phenol oxidase activity was not found to be correlated with either soluble protein or total fungal biomass in the fermented sawdust, which were correlated for each strain. Quantification of biomass from submerged liquid culture on the basis of dry weight and ergosterol contents showed that the strains fell into the same two groups with respect to the ergosterol to biomass ratio, which was markedly lower than that for a strain of L. lepideus.

135.
NAL Call No.: RA1270.P35A1
Relationship between uptake of mercury vapor by mushrooms and its catalase activity Shiitake.
Ogata, M.; Kenmotsu, K.; Hirota, N.; Naito, M. *Bull-Environ- Contam-Toxicol. New York, Springer. Dec 1981. v. 27 (6) p. 816- 820.*
Includes ref.

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136.
NAL Call No.: QR1.L47
Relationships between ligninolytic activities of Lentinula spp. and biotransformation of pentachlorophenol in sterile soil.
Okeke, B. C.; Paterson, A.; Smith, J. E.; Watson Craik, I. A. *Lett-appl-microbiol* v.19(4): p.284-287. (1994 Oct.)
Includes references.
Descriptors: lentinula-edodes; lentinula; microbial- degradation; metabolism; pentachlorophenol; polluted-soils; bioremediation; laccase; peroxidases; enzyme-activity; ligninolytic-microorganisms; lentinula-lepideus; manganese- peroxidase

137.
NAL Call No.: 99.8-F762
Shiitake: a new forest product.

Wilkes, G. *Am-For* v.91(10): p.48-49. ill. (1985 Oct.)
Descriptors: mushrooms; cultural-methods; forests

138.
NAL Call No.: TX541.D33
Shiitake and other edible mushrooms cultivated in Japan: production, biology, and breeding.
Tsuneda, A. *Dev-food-sci. Amsterdam : Elsevier Scientific Publications. 1994. v. 34 p. 685-727.*
In the series analtyic: Spices, herbs and edible fungi / edited by G. Charalambous.
Descriptors: mushrooms; plant-breeding; genetics; cultivation; biology; literature-reviews; japan

139.
NAL Call No.: SB1.H6
Shiitake and oyster mushroom production on apple pomace and sawdust.
Worrall, J. J.; Yang, C. S. *HortScience* v.27(10): p.1131-1133. (1992 Oct.)
Includes references.
Descriptors: lentinula-edodes; pleurotus-ostreatus; substrates; apple-pomace; sawdust; mixtures; crop-yield; new-york

Abstract: A mixture of apple pomace and sawdust was tested as a s production of shiitake [Lentinula edodes (Berk.) Pegler] and oyster mushroom [Pleurotus ostreatus (Jacq. ex Fr.) Kummer and P. sajor-caju Fr.) Sing.] on synthetic logs. My- celia grew faster and more densely in logs containing apple pomace than in sawdust alone. Five shiitake isolates and two Pleurotus spp. produced higher fresh weights on a mixture of equal parts (by weight) of apple pomace and sawdust than on either substrate alone. An alternative substrate based on sawdust, millet (Panicum miliaceum L.) and wheat (Triticum aestivum L.), bran gave almost identical overall yield as pomace-sawdust medium, but there was a significant differential effect of the sustrates on yield of the two tested shiitake isolates. Analyses and experiments in vitro suggested that optimal N levels provided by apple pomace account in part for its effectiveness.

140.
NAL Call No.: 450-M99
Shiitake cultivation: gas phase during incubation influences productivity.
Donoghue, J. D.; Denison, W. C. *Mycologia* v.87(2): p.239-244. (1995 Mar.-1995 Apr.)
Includes references.
Descriptors: lentinula-edodes; crop-production; crop- yield; gas-exchange; carbon-dioxide; growing-media; bags; oxygen- requirement; growth; fruiting; filters; ventilation

141.
NAL Call No.: 450-M99
Shiitake cultivation on sawdust: evaluation of selected genotypes for biological efficiency and mushroom size.
Diehle, D. A.; Royse, D. J. *Mycologia* v.78(6): p.929- 933. ill. (1986 Nov.-1986 Dec.)
Includes references.
Descriptors: lentinus-edodes; mushrooms; sawdust; culture-media; genotypes; culture-techniques

142.
NAL Call No.: S544.3.V8V52-no.438-012
Shiitake farming in Virginia.
Cotter, V. T. [Blacksburg] : Virginia Cooperative Extension Service, 1988. 8 p. : ill., Cover title.

143.
NAL Call No.: SB353.5.S55H37-1983
Shiitake gardening & farming.
Harris, B. 1. [Iverness, CA : Mushroompeople], c1983. 14 p. : ill., *Descriptors:* Shiitake; Mushroom-culture; Mushrooms,-Edible

144.

NAL Call No.: SB353.5.S55P71
Shiitake growers handbook : the art and science of mushroom cultivation.
Przybylowicz, P.; Donoghue, J. Dubuque, IA : Kendall/Hunt Publishing Co., c1988. xiv, 217 p. : ill., Includes bibliographies and index.
Descriptors: Mushroom-culture; Mushrooms,-Edible

145.
NAL Call No.: TX341.F662
Shiitake, Lentinus edodes: functional properties for medicinal and food purposes.
Mizuno, T. *Food-rev-int* v.11(1): p.111-128. (1995)
In the special issue: Mushrooms: The versatile fungus--food and medicinal properties: chemistry, biochemistry, biotechnology, and utilization / edited by T. Mizuno.
Descriptors: lentinula-edodes; mushrooms; lentinula- edodes; sensory-evaluation; medicinal-properties; pharmacology; nutrient-content; lipids; antineoplastic-agents; chemical- analysis; drug-effects; chemical-composition; fractionation; antiviral-agents; food-composition; blood-coagulation; plant- growth-regulators; fiber; polysaccharides; enzymes; anticholesteremic-agents; literature-reviews; nutrition-physiology; chemical-structures

146.
NAL Call No.: HD2346.U5R8
Shiitake marketing guide gives growers valuable tips.
Rural-Enterp v.2(1): p.14-15. ill. (1988 Winter)
Descriptors: mushrooms; marketing-techniques; alternative-farming; entrepreneurship; food-distribution-and- marketing; minnesota

147.
NAL Call No.: SB353.I57-1981
Shiitake mushroom cultivation in Thailand.
Nutalaya, S.; Pataragetvit, S. *Proceedings of the Eleventh International Scientific Congress on the Cultivation of Edible Fungi, Australia, 1981 / edited by N.G. Nair, A.D. Clift. Sydney : [s.n.], 1981. v. 1 p. 723-736.*
Includes references.
Descriptors: lentinus-edodes; cultivation-methods; yields; thailand

148.
NAL Call No.: 156.65-P69
Shiitake mushroom plant named 'Hokken 601'.
Inoue, S.; Ayusawa, S. *Plant-Pat-U-S-Pat-Trademark-Off. Washington, D.C. : The Office. Sept 25, 1990. (7339) 2 p. plates.*
Descriptors: lentinula-edodes; high-yielding-varieties; patents; tissue-culture; sawdust; cultivation; usa; japan

Abstract: The present invention relates to a new and distinct horticultural variety of shiitake mushroom. Lentinus edodes (Berk.) Sing. This new variety, named "Hokken 601", was discovered by crossbreeding. It is adaptable to short term cultivation in sawdust beds and is characterized by rapid growth in these beds. "Hokken 601" offers superior yields and firmer flesh than other varieties of shiitake.

149.
NAL Call No.: aHD1401.A2U52
Shiitake mushroom production gaining ground.
Morgan, C. L. *Farmline-U-S-Dep-Agric-Econ-Res-Serv* v.13(5): p.16-18. (1992 May)
Based primarily on information provided by economist Shannon Hamm, Commodity Economics Division, Economic Research Service.
Descriptors: mushrooms; crop-production; usa

150.

NAL Call No.: SD144.I3I55
Shiitake mushroom production: good food combines good forestry and good economics.
Burnett, C. *Ill-For-Manage-Biannu-Newsl-Ill-Landowners-Dep- For-Coop-Ext-Serv-Univ-Ill-Urbana-Champaign* v.2(15): p.1-4. (1988)
Descriptors: lentinus-edodes; agroforestry; cultural- methods; feasibility-studies; information-sources; private- forestry; woodlands; illinois

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151.
NAL Call No.: aSD11.U56
Shiitake mushroom production on small diameter oak logs in Ohio.
Bratkovich, S. M. *Gen-Tech-Rep-NE-U-S-Dep-Agric-For-Serv- Northeast-For-Exp-Stn* (148): p.543-549. (1991 Mar.)
Paper present at the 8th Central Hardwood Forest Conference, March 4-6, 1991, University Park, Pennsylvania.
Descriptors: mushrooms; lentinula-edodes; strains; crop-yield; logs; ohio

152.
NAL Call No.: HD2346.U5R8
Shiitake mushrooms.
Rural-Enterp v.1(1): p.8-10. ill. (1986 Summer)
Includes references.
Descriptors: mushrooms; cash-crops; hardwoods; logs; production-possibilities; plant-production; nutritional-value; usa; shiitake

153.
NAL Call No.: 94.69-T31
Shiitake mushrooms: a forest products from woods to supper table.
Rogers, K. E. *Proc-Annu-Conf-Tex-Pecan-Grow-Assoc* v.65(67/69): p.49-50. (1991)
Descriptors: lentinula-edodes; cultivation; economics; retail-marketing; texas

154.
NAL Call No.: SB353.5.S55S5
Shiitake mushrooms : a national symposium and trade show : held in St. Paul, Minnesota, May 3-5, 1989.
University of Minnesota. Center for Alternative Crops and Products. [St. Paul, Minn.? : The University?, 1989?] 217 p. : ill., Includes bibliographical references.
Descriptors: Shiitake-United-States-Congresses; Shiitake-United-States-Marketing-Congresses; Mushroom-culture- United-States-Congresses; Mushroom-industry-United-States- Congresses

155.
NAL Call No.: HD9235.M952N48-1991
Shiitake mushrooms : an alternative enterprise guidebook.
Yellow Wood Associates. [Fairfield, Vt. : The Associates, 1991] 23 p., Cover title.
Descriptors: Shiitake-Economic-aspects; Mushroom- industry; Mushroom-culture

156.
NAL Call No.: HD9235.M952U64--1992
Shiitake mushrooms. Growing a grassroots industry.
Kimmons, T. E. Shirley, AR : Shirley Community Services & Development Corp., [1992] 2 v. in 1. : ill., "December 9, 1992." Administration; Economic Development Administration Grant # 08- 06-02805.". v.

1. Growing a grassroots industry -- v. 2. Market overview of an emerging agricultural industry.
Descriptors: Shiitake-Arkansas-Marketing; Mushroom- industry-Arkansas; Community-development-Arkansas

157.
NAL Call No.: 448.3-J824
Single and joint segregation of marker loci in the shiitake mushroom, Lentinus edodes.
Royse, D. J.; Spear, M. C.; May, B. *J-Gen-Appl-Microbiol* v.29(3): p.217-222. ill. (1983 June)
Includes references.

158.
NAL Call No.: 451-B76
Stimulatory effect of nickel or tin on fruiting of Lentinus edodes.
Leatham, G. F.; Stahmann, M. A. *Trans-Br-Mycol-Soc* v.83(pt.3): p.513-517. ill. (1984 Oct.)
Includes references.
Descriptors: lentinus-edodes; edible-fungi; nickel; tin; fruiting; stimulation

159.
NAL Call No.: TD930.A32
Strain selection for cultivation of Shiitake mushrooms (Lentinus edodes) on straw.
Levanon, D.; Rothschild, N.; Danai, O.; Masaphy, S. *Bioresource-Technol* v.45(1): p.9-12. (1993)
Includes references.
Descriptors: lentinula-edodes; strains; artificial- selection; selection-criteria; straw; substrates; cultivation

160.
NAL Call No.: QK600.E9
Strain typing in Lentinula edodes by polymerase chain reaction.
Kwan, H. S.; Chiu, S. W.; Pang, K. M.; Cheng, S. C. *Exp- Mycol* v.16(2): p.163-166. (1992 June)
Includes references.
Descriptors: lentinula-edodes; ribosomal-dna; ribosomal-rna; genes; polymerase-chain-reaction; strain-differences; genetic-markers; dna-probes; repetitive-dna; nucleotide-sequences; molecular-sequence-data; internal- transcribed-spacers

161.
NAL Call No.: QR1.F44
Strain typing of Lentinula edodes by random amplified polymorphic DNA assay.
Zhang, Y. F.; Molina, F. I. *FEMS-micro-biol-lett* v.131(1): p.17-20. (1995 Aug.)
Includes references.
Descriptors: lentinula-edodes; strains; dna; genetic- markers; genetic-polymorphism; differentiation; bioassays

Abstract: Single 10-base primers were used to generate randomly amplified polymorphic DNA (RAPD) markers in the shiitake mushroom, Lentinula edodes. Seven primers produced polymorphisms in all 15 strains tested, producing 12-19 bands ranging from 0.34 to 2.52 kb. Thirteen of the 15 strains had unique DNA fingerprints, whereas L. edodes ATCC 28759 and ATCC 28760 exhibited identical RAPD profiles for all the primers. Molecular- genetic markers obtained with the RAPD assay can be used to differentiate strains of L. edodes and have potential applications in mushroom breeding and strain improvement programs.

162.
NAL Call No.: 385-T29
Structure and synthesis of lentysine, a new hypocholesterolemic substance. [Lentinus edodes]
Kamiya, T.; Saito, Y.; Hashimoto, M.; Seki, H. *Tetrahedron- Lett, Nov 1969, 53: 4729-4732.*

163.
NAL Call No.: RM1.C5

Studies on basidiomycetes. I. Antitumor polysaccharide from bagasse medium on which mycelia of Lentinus edodes (Berk.) Sing. had been grown.
Togami, M.; Takeuchi, I.; Imaizumi, F.; Kawakami, M. *Chem- Pharm-Bull. Tokyo, Pharmaceutical Society of Japan. Apr 1982. v. 30 (4) p. 1134-1140.*
Includes 2 p. ref.

164.
NAL Call No.: RC620.A1N8
Studies on dietary fiber of mushrooms and edible wild plants.
Kurasawa, S. I.; Sugahara, T.; Hayashi, J.; Food and Nutrition Problems of Dietary Fiber (Nov. 20 21, 1. T. J. *Nutr-Rep-Int. Los Altos : Geron-X, Inc. Aug. 1982. v. 26 (2) p. 167-173 charts.*
Includes 7 references.
Descriptors: Dietary-factors; Fiber; High-fiber-diets; Cholesterol; Food-composition; Dietary-study-methods; Food- analysis; Mushrooms

Abstract: Extract: The contents of neutral detergent fiber (NDF), acid detergent fiber (ADF), lignin, pectic substance, and crude fiber in 26 kinds of mushrooms were assayed as dietary fiber (DF). The mean contents of these substances were (as percentage of dry weight) 35.7% for NDF, 14.3% for ADF, 2.9% for lignin, 3.7% for pectic substance, and 9.7% for crude fiber. Thus, the cellulose (ADF-lignin) was 11.4%, hemicelulose (NDF- ADF) was 21.4%, and the total DF (NDF plus pectic substance) was 39.4%. The ratio of crude fiber to total DF for each group of mushroom was in a range of high values of 5.7. On the other hand, the mean DF contents in 35 kinds of edible wild plants (as percentage of dry weight) were : 24.1% for NDF, 16.3% for ADF, 3.1% for lignin, 2.3% for pectic substance, and 9.6% for crude fiber. Thus the cellulose was 13.2%, hemicellulose was 7.8% and total DF was 26.6%. The ratio of crude fiber to total DF for each group of edible wild plant was in a range of 1.8-6.4. The effect of feeding with the diet containing NDF isolated from Shiitake (Lentinus edodes) upon the level of plasma cholesterol in the rat was investigated. It was found tht NDF without eritadenine might suppress the cholesterol level. It was also observed that cholesterol levels in the plasma and liver were decreased by increasing the amount of Shiitake NDF added to the diet. Thus, addition of more than 5.0% of Shiitake NDF significantly reduced plasma cholesterol level, while the liver cholesterol level also was significantly lowered by adding 10.0% of Shiitake NDF to the diet. (author/wz).

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165.
NAL Call No.: 450-P697
Studies on lectins from Korean higher fungi: IV. A mitogenic lectin from the mushroom Lentinus edodes.
Jeune, K. H.; Moon, I. J.; Kim, M. K.; Chung, S. R. *Plant- Med* v.56(6): p.592. (1990 Dec.)
Paper presented at International symposium on biology and chemistry of active natural substances, July 17-22, 1990, Bonn, Germany.
Descriptors: lentinula-edodes; plant-extracts; lectins; korea-republic

166.
NAL Call No.: 107.6-SA23
Studies on physiological and chemical properties and postharvest keeping quality of mushrooms. XII. Changes in soluble carbohydrates during the growth of Shii-take fruit bodies (Lentinus edodes Sing.).
Minamide, T.; Iwata, T. *Bull-Univ-Osaka-Prefect-Ser-B-Agric- Biol. Sakai, Osaka : The University. 1987. v. 39 p. 1-7.*
Includes references.
Descriptors: lentinus-edodes; carbohydrates; dehydrogenases; mannitol; developmental-stages; growth

167.
NAL Call No.: 22.5-AG823
Studies on the breeding of shiitake, a new strain for the cultivation in the low elevation areas.
Liao, Y. M. *Chung-hua-Nung-Yeh-Yen-Chiu-J-Agric-Res- China* v.33(3): p.292-305. ill. (1984 Sept.)
Includes 23 references.
Descriptors: lentinus-edodes; breeding; crop- production; taiwan

168.
NAL Call No.: QK600.H3
Studies on the possibility of oak mushroom (shiitake) cultivation on Ban oak (Quercus incana) of India.
Lee, E. R. *Hang'guk-Kyunhakoe-Chi-Korean-J-Mycol. Seoul, Korean Society of Mycology. Dec 1978. v. 6 (2) p. 29-33. ill.*
9 ref.
Descriptors: India

169.
NAL Call No.: 389.9-T57
Studies on the preservation of shii-take mushroom (Lentinus edodes (Bark) sing) at producer farm.
Kikuchi, M.; Yamashita, I.; Ishima, T.; Hosoda, H. *Shokuhin- Sogo-Kenkyujo-Kenkyu-Hokoku-Rep-Natl-Food-Res-Inst* (48): p.9-14. (1986 Mar.)
Includes references.
Descriptors: mushrooms; postharvest-treatment; farm- storage; packaging-materials; plastic-film; japan

170.
NAL Call No.: QR1.I53-1974
Studies on virus like particles in Lentinus edodes [Mushrooms]
Mori, K. *In Proc Intersect Congr Int Assoc Microbiol Soc, 1974 (Pub. 1975), 1st (v. 3): 396-401.*

171.
NAL Call No.: 385-AG8B
Sulfur containing peptides in Lentinus edodes Mushroom.
Aoyagi, Y.; Sasaki, H.; Sugahara, T.; Hasegawa, T.; Suzuki, T. *Agric-Biol-Chem. Tokyo, Agricultural Chemical Society of Japan. Nov 1980. v. 44 (11) p. 2667-2670. ill.*
13 ref.

172.
NAL Call No.: 450-M99
A synthetic medium for the production of submerged cultures of Lentinus edodes.
Song, C. H.; Cho, K. Y.; Nair, N. G. *Mycologia* v.79(6): p.866-876. ill. (1987 Nov.-1987 Dec.)
Includes references.
Descriptors: lentinus-edodes; culture-media; culture- techniques

173.
NAL Call No.: QR1.M562
Tolerance of tannin by the shiitake mushroom, Lentinus edodes.
Yu, M.; Chang, S. T. *MIRCEN-J-Appl-Microbiol-Biotechnol* v.5(3): p.375-378. (1989)
Includes references.
Descriptors: lentinus-edodes; tannins; mycelium; tolerances

174.
NAL Call No.: 389.8-F7322
Tyrosine, laccase, and peroxidase in mushrooms (Agaricus, Crimini, Oyster, and Shiitake).
Ratcliffe, B.; Flurkey, W. H.; Kuglin, J.; Dawley, R. *J-food- sci* v.59(4): p.824-827. (1994 July-1994 Aug.)
Includes references.

Descriptors: mushrooms; food-composition; laccase; catechol-oxidase; peroxidase; enzyme-activity; browning

Abstract: Enzyme assays and electrophoresis were used to monitor the activity of tyrosinase, laccase, and peroxidase in Agaricus bisporus (common cultivated button mushrooms and Crimini mushrooms), Oyster, and Shiitake mushrooms. The three enzymes could be differentiated using specific substrates and inhibitors. Tyrosinase seemed to be the major phenol oxidase in the Agaricus strains, while Oyster and Shiitake mushrooms had much lower levels. Peroxidase activity was low or undetectable in all types examined. Control of enzymatic browning in different mushroom types may depend upon the distribution of different oxidases within any given type.

175.
NAL Call No.: 448.8-V81
Ultrastructural features of fungal virus-like particles from Lentinus edodes.
Ushiyama, R.; Nakai, Y. *Virology* v.123(1): p.93-101. ill. (1982 Nov.)
2 p. ref.

176.
NAL Call No.: QR1.I53-1974
Virus-like particles in shiitake mushroom, Lentinus edodes (Berk.) Sing
Ushiyama, R. *In Proc Intersect Congr Int Assoc Microbiol Soc, 1974 (Pub. 1975), 1st (v. 3): 402-406.*

177.
NAL Call No.: QR1.L47
Whey permeate as a growth medium for Pleurotus ostreatus and Lentinus edodes.
Di Lena, G.; Sermanni, G. G. *Lett-appl-microbiol* v.19(5): p.391-393. (1994 Nov.)
Includes references.
Descriptors: lentinula-edodes; pleurotus-ostreatus; cell-culture; culture-media; whey; ultrafiltration; monophenol- monooxygenase; biosynthesis

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