

The NATIONAL MUSHROOM MOVEMENT

WASTE of the Enormous Natural Crop, Ample to Avert Famine and Hunger, Has Started Wide Activities Looking to Their Conservation



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SOME kind of national movement to prevent the enormous annual waste of mushrooms in the United States, estimated to be equal in food value to the entire agricultural product of the country, is not only essential but is actually commencing.

The State of Minnesota has the honor to be the leader of the movement in America. It has just issued free to every citizen in the State, an 8vo booklet of 100 pages and 124 illustrations to teach people the difference between edible and poisonous mushrooms the former of which Americans have too long contemptuously passed over as "toadstools." Professor Frederick E. Clements, State Botanist, in his preface makes the following statement:—

"An important object of the 'Guide to Minnesota Mushrooms' is to make available with safety the enormous crop, which is now almost entirely wasted through fear or neglect. It is perhaps idle to estimate the size or value of this crop, but if that part which is readily accessible is alone considered the number of pounds of Minnesota will reach hundreds of thousands. Figured on the market price of the cultivated mushroom, the total value of the mushroom crop of the State can hardly be less than a million dollars. Just what would be the effect of utilizing this food supply is a matter of conjecture, but there can be little doubt that it would prove fortunate from the standpoint of dietetics as well as of economics. Copies of the booklet are furnished free to the citizens of Minnesota, and ten copies to each of its high schools, academies and colleges. Citizens will feel free at all times to send specimens to the Department of Botany of the University of Minnesota at Minneapolis, to be named."

Although the 1910 crop of the American farmer was valued at almost one billion dollars, it has been well demonstrated by scientists who know that more than that value in edible mushrooms, measured as a food supply, goes to waste annually within the United States. Foreign governments for several years have been exerting their every resource to teach their citizens the food values of nature's marvelously generous supply of so-called toadstools. France has a great central free school and exposition at Rouen under direction of Professor Paul Noel, Director of Agricultural Entomology, and other schools elsewhere, teaching citizens how to select and utilize the best edible species.

Every afternoon in season Professor Noel, who is also both an accomplished cryptogamist and an expert of the first order, lectures to packed audiences of country folk, demonstrating the great food resources to be found in the edible mushrooms growing plentifully in the immense forests of Normandy. Hundreds of specimens are spread on tables in front of him, by means of which he is able to differentiate in simple language between the edible, poisonous and woody fungi. Exhibitions of the desirable types have been organized all over France, and especially in Paris, to enable the poorest citizens to go out daily and collect the richest of foods, both for their own consumption and to sell in the markets, where thirty species have government sanction and inspection.

Saxony gives regular, systematic instruction in all elementary schools to familiarize children thoroughly with mushrooms. A permanent exhibition is maintained at Plauen. Government wagons collect specimens for the classes. Germany has similar free schools, in which citizens compose the classes, to learn how to utilize mushrooms. Japan, while not discarding well known types of commercial mushrooms, because of the expense of cultivating them, picked out its most delicious edible species, the "shitake," and not only taught its general use at home, but introduced its culture into Formosa and other colonies to maintain a staple food supply. The shitake grows on dead oak limbs and requires little effort at cultivation than to place its mycelium in conjunction with them, keeping the spawn supplied with rice water. It is now on sale in the Chinese stores of New York. Dr. W. A. Murrill, assistant director of the New York Botanical Garden, to whom I gave the first specimens sent me from Formosa, has identified it as *Armillaria elodes*, first named by Berkeley.

During our warm weather months nature produces a crop of deliciously edible mushrooms which should have an annual cash value to the nation far larger than that of the wheat crop. Why pay more or less for a pound of cultivated mushrooms when you can find basketsful in your yards, pastures, meadows,

fore our eyes because edible mushrooms grow right in the cities and villages, as well as in the country.

Now is the question to be made. We have schools of all descriptions through which we educate the rising generations on what to do. Instruction must be extended to teachers of all grades, say, on twenty, or thirty species of common mushrooms, presenting the most edible qualities. Every State has a big department of agriculture and agricultural colleges with a corps of trained botanists. These departments devote their attention to plant diseases, all well enough in a way, but should be made to instruct teachers on edible mushrooms. I would call the attention of these botanists to the fact that many of these so-called plant and tree diseases have a far more edible value than the plants or trees affected. It is absurd that mushrooms, with an average market value of one dollar a pound, should be considered a disease on



Puff Balls in the Young, or Edible Stage (*Corticium Coccineum*)

Fat Pholiota (*Pholiota Adiposa*) Edible



Rough Stemmed Boletus (*Cerioporus Scaber*) Edible



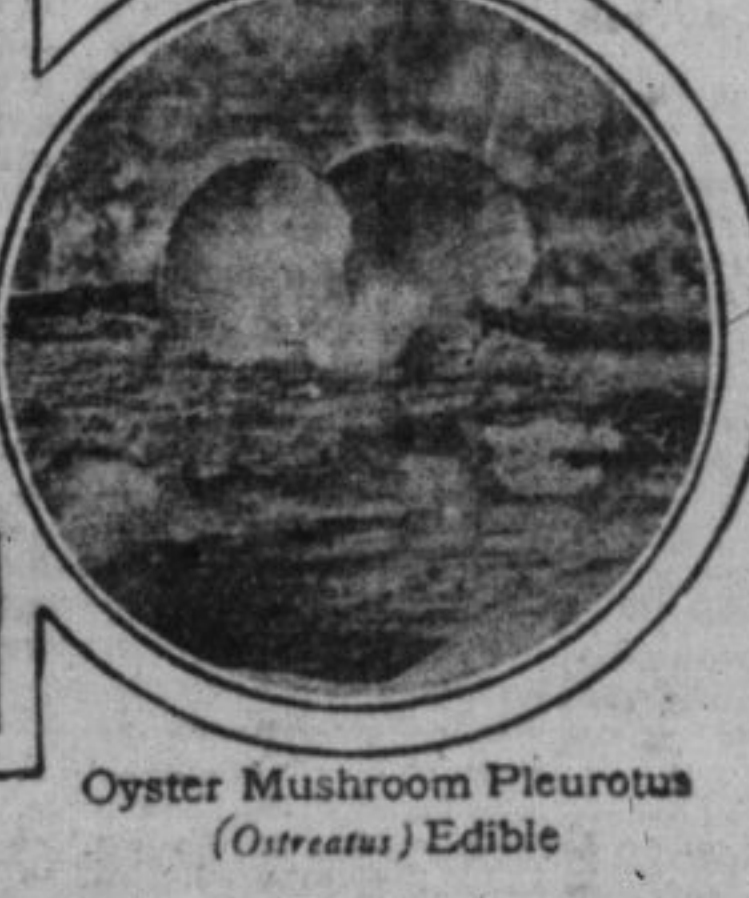
(*Pleurotus Ostreatus*) Edible



Perplexing Hypophoma (*Hypophoma Perplexum*) Edible



An Italian Gathering Edible Mushrooms on the Palisades. (*Armillaria Mellea*)



Oyster Mushroom Pleurotus (*Pleurotus Ostreatus*) Edible



Fly Amanita (*Amanita Muscaria*) Deadly Poison



Coral Fungus (*Sporium Herbsii*) Edible

ploughed fields, woods and groves, many of them far better eating? From time immemorial our greatest and most valuable food crop has gone to waste, much of it right before the eyes of masses of people to whom the food problem is a very serious one, people who have to scrape and suffer to get the commonest, coarsest provisions, not to be compared in any respect to the despised "toadstools" perishing before their eyes.

Starving Amid Plenty.

In a small New Jersey village I saw a tramp fall faint with hunger, under a tree covered with mushrooms (Pleurotus) from the base far up among the limbs, enough to have fed the sympathizing coterie of villagers that gathered around him. He had only to stretch up his hand for food that in this particular instance would have been good enough for a king. I can only poorly compare the extraordinary, the distressing wastefulness of our self-propagating mushroom crop to that of our vast deposits of unmined coal, far vaster and more valuable than our coal beds. The comparison is poor because the coal will stay where it is and even grow until wanted, while our mushrooms soon die and rot like a strawberry left on a vine. How quickly we pick the berry when ripe! How scornfully we pass by the despised toadstool, worth many times more food value in cold cash!

It must be admitted, however, that there has been quite a growth of people in this country who recognize the value of mushrooms springing up in their vicinity and gather them. The university and college element—that is, the professors and their families—form a class in many communities of this type, led by the professors in botany. Among the people generally are some observing Americans who have been abroad and know with what care many foreign nations gather and eat mushrooms that are edible and who have learned what types to leave alone, by reason of their poisonous, woody or flavorless condition. It would not be charitable of crowded Europe and England to neglect such enormous food resources or to fail to search daily every nook and corner. We are called an extravagant people, but for other reasons than those above.

When I consider our waste of coal and mushrooms I feel like adding that we are recklessly and criminally extravagant. Is it not criminal when we have a million people in poverty to let millions of dollars' worth of food and fuel to cook it with perish before our eyes for the want of the smallest exertion? I say so



The Japanese Mushroom of Commerce the Shitake, Growing on Oak Wood (*Armillaria Edodes*)

trees, for instance, the apples of which are worth not one-fourth as much a pound.

The moulds, rusts and rots do vast damage, but at the same time they prepare the way for the growth of mushrooms. As a matter of fact, a diseased tree may possibly produce ten dollars' worth of food value in edible mushrooms to every dollar made from fruit on a sound tree.

Detecting Poisonous Species.

Very little instruction is really needed by teachers or parents on the differences of poisonous and edible mushrooms. They have only to take a few days' course on, say, fifty species of good and bad mushrooms that grow in the locality where they teach. They will soon easily become able to detect these species growing wild and point them out to scholars, from earliest spring to latest autumn, and in Southern States all the year around. All doubtful forms may be left alone or picked, dried in an oven or in the sun and submitted to the nearest expert for knowledge of

them. In North Carolina in midwinter I have seen tons of edible mushrooms go to waste. On a single dead tree I have seen enough specimens to feed several families.

The Southern States ought to feast on mushrooms the year round. There are many ways to cook and use mushrooms and many books describing how.

One can commence at any time of the year, even in winter, to learn the food values of mushrooms. The market mushroom is the proper species to start with. First get familiar with its appearance and methods of cooking it. The best way to begin is to purchase a mushroom book. Most of these teach how and where to find one hundred-edible species and how to prepare and cook each one.

The Italians in America, who persistently collect mushrooms during all the warm months of the year, really do test at all. The poisonous symptoms of the deadly species of Amanitas do not disclose themselves for several days, until it is too late to help the victim. In case of poisoning the victim should at once take emetic and then see a physician, who will administer atropine.

The Italians alone, perhaps, make a business of collecting wild mushrooms in this part of the world. Men and women go about with enormous clothes baskets. These mushrooms are placed on sale in New York's big Italian quarter, in both the fresh and dried form.

Tree-Killing Fungus.

The French people have established a great business in wild mushrooms. Many factories exist in France where the mushrooms are canned for the world's markets. Hundreds of people find employment in gathering the crop in wood and field. These canned mushrooms are on sale in New York in every grocery store, and I doubt their many purchasers would have a fit if they knew the commonest of the canners' most common field varieties. As a matter of experience, however, it would be easy to find a hundred species within a radius of a hundred miles of New York, quite as delicious as those of which in ten years have destroyed about three-quarters of all the trees the city formerly had. I have gathered some of the rarest, most gorgeous and most gaudy species from trees in the business streets. Of this type are certain big hydnum of snowy whiteness and of stately yellow, and the polypore variety, in which I have captured canchlikins weighing more than a pound and fronds weighing more than thirty pounds, too large to get into any basket I possessed.

It is to be hoped that our governments, State

and national, will soon cause the establishment of free schools, not to induce people to become mycologists, but to eat the mushrooms with which they are surrounded. Different species fruit every day all during warm weather. Let us stop this criminal waste of food. Mushrooms are as life sustaining and as satisfying to the taste as any of the meats, vegetables and fruits, or as much so as all of them combined. They digest as easily if cooked properly. They cost little or nothing. They propagate themselves. They turn to a living, pure mushroom plant. One takes no more chances in being poisoned by them than from meats, fish, vegetables, fruits, &c., "overripe" when cooked.

People desirous of making a trial of mushrooms as food should get into communication with their State botanist and let him decide on the matter of edibility when in doubt. If possible, send to him only specimens which are fresh and which have not commenced to decay. Pack in wooden box or basket and consider which will deliver quickest, mail or express. The mails are now so heavy that it is no longer possible to forward anything in pasteboard boxes without certain crushing. It is best to dry mushrooms in the oven before intrusting them to the mail or express, exercising care not to scorch them or injure any of their identifying characteristics. In New York, at Albany, in our great authority on the mushrooms of the State, the State Botanist, Professor Charles H. Peck. At Cornell University, Ithaca, is another, Professor George F. Atkinson. At Cincinnati, Ohio, is C. G. Lloyd, at the Lloyd Library, open to all desirous of information or identifications from anywhere on earth, the only living pure mushroom plant. At Iowa City, at the State University of Iowa, is Professor Thomas H. Macbride. At the DePaul University, Greenacres, Ind., is Professor Howard J. Banks, great specialist on hydnum, those fungi that resemble the backs of hedgehogs. At Middlebury, Vt., is Professor E. Burt. In other States it should be sufficient to address simply the State Botanist at the capital or State University or State Agricultural College.

In conclusion, if the reader desires mushrooms to eat only, never pick one with a hole at the bottom of the stem, and in a cup or in scales in the ground. These are characteristic both of the deadly amanitas and the edible amanitas. Leave the amanitas alone until you know the exact differences, which often puzzle an expert. If you even think you have swallowed a poisonous mushroom, take an emetic at once and consult a physician.

THE CHEERFUL GRIN.

HAVE just heard, son, that you are about to be married. Let me tell you something; let me give you a thought to turn over in your mind while you are fretting because your bride-to-be insists upon giving much of her time—it isn't your time yet—to her trousseau.

Most marriages, son, are a success during the honeymoon. It is easy enough to be happy and to make your wife happy while you are both in the full flush of marital enthusiasm. But there is a day coming when you will both sink to the dead level of prosaic married life. What then? Are you prepared for those humdrum days?

I am not joking, son, even though you may think I am. In the lives of every married couple there will be humdrum days, and plenty of them. There will be days when you will sit across the breakfast table from your wife and wonder why you married her, and there will be just as many days—and you will be lucky indeed if there are not more—when she will almost wish that she had married the other man. Those are crucial times, son. Those are the times when you and your wife will make or mar your marriage.

For the true test of marriage, son, lies in the ability to keep things going when under just such a strain and stress. It is always easier to run than to walk, because when you are running, son, your nervous system is keyed up to its highest pitch, but when you come to walk, to plod, there is nothing to keep you going but the grinding power of your will.

And no matter what you may think about it now, son, you will walk during the greater part of your married life. You will plod—and plodding is not a pleasant occupation. It gets on one's nerves, it drives some men to drink and some to other and more harmful forms of dissipation, and it has driven many a matrimonial ship upon the jagged rocks of the divorce court. Men and women are made that way. It is hard for them to endure monotony, but to live down the dull uniformity which makes up so much of every married life is a glorious achievement and well worth the effort of any man or woman.

I didn't mean to say that it just be lived down, son. That was a mistake. It should be lunched. There are ways to have the secret of a happy married life, son. Banish monotony. Make living a joy and face the daily problems of your household with a grin. There is a lot of moral instruction in a good healthy grin, son. There will be a lot of comfort in it for you and for your wife. It will help you get over the rough patches without seething or fretting them; it will keep you from worrying over bills, and, best of all, it will keep your wife from ever being sorry that she married you.

No woman ever yet smiled for a divorce. The man who could meet worry and still smile and remain a cheerful grin. Just remember that, son.