

Maine Wild-Harvested Mushroom Certification Manual

Manual Overview

INTRODUCTION

- **Maine's Wild Harvested Mushroom Certification Program**
 - **Maine's Foraging Tradition**
 - **Traditional Use of Wild Mushrooms**
 - **The Federal Food Code and State Regulation of Food Safety**
 - **The Need for Certification of Commercial Mushroom Foragers**
 - **Who Needs to be Certified?**
 - **The Levels of Certification**
 - **Process for Implementing a Commercial Wild Mushroom Foraging Certification System**
- **Current Regulations and Rules Governing the Commercial Harvest of Wild Mushrooms in Maine.**
- **Commercial Mushroom Forager Certification Process.**

PART I. BACKGROUND INFORMATION

WHAT IS A MUSHROOM? WHY ARE MUSHROOMS IMPORTANT?

- **Introduction to the Fungi**
- **The Importance of Fungi in the Environment**
- **The Different Types of Mushrooms**

ANATOMY OF MUSHROOMS

- **General shapes of mushrooms**
- **The Parts of a Mushroom**
- **Pictorial Glossary of Mushroom Features**

HOW TO IDENTIFY MUSHROOMS

- **What do I need to Know?**
- **How to Collect for Identification**
- **What Equipment do I Need?**
- **The Steps to Identify an Unknown Mushroom**

NOMENCLATURE

- **Why Names are Important**

- **Scientific Names versus Common Names**

MUSHROOM TOXICITY

- **The History of Mushroom Poisoning**
- **The Extent of the Problem in Modern Times**
- **The Range of Mushroom Toxins**
- **Who Typically Gets in Trouble and How to Avoid Joining the Ranks**

Expectations FOR A CERTIFIED FORAGER

RESPONSIBLE COLLECTING

- **Collecting for a Sustainable Mushroom Supply**
 - **Protection of the Habitat**
 - **Avoiding Overharvesting**

Whose Land is it?

- **Access to Open Land in Maine**
- **Commercial Foraging on Public and Private Lands**
- **Securing Permission to Collect- “Ask First”**

Responsible Sales Practices

- **Education of Buyers/ Final User**
 - **Proper storage**
 - **Proper / Safe Preparation**

COLLECTION AND STORAGE OF WILD MUSHROOMS

- **Harvesting Mushrooms in Good Condition**
- **Collecting Techniques**
 - **Separation of Mushroom Species for Safety**
 - **Ensuring a High Quality Product**
- **Grading and Storage of Wild Mushrooms**

RECORD KEEPING

- **The Regulations**
- **Tips for Good Record Keeping**
 - **Foragers**
 - **Brokers**
 - **Chefs and Retailers**

PART II. THE MUSHROOMS

**MUSHROOMS APPROVED FOR COMMERCIAL COLLECTION AND SALE
IN MAINE**

LEVEL I MUSHROOMS (Alphabetical by Genus)

LEVEL II MUSHROOMS (Alphabetical by Genus)

LEVEL III MUSHROOMS (Alphabetical by Genus)

PART III. APPENDICES

- **Additional resources for Mushroom Identification**
 - **Mushroom Field Guides**
 - **Online Resources**
 - **Mushroom Associations and Groups**

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Species Format

Name: Species binomial
Accepted Common Name
Other Common Names in Wide Use

Introduction and History of Use

Description:

Narrative Description

Typical size:

Cap: Size

Color:

Shape

Texture

Spore-bearing surface type (gills, pores, teeth...)

Color

Unique features

Stem: Size

Color

Shape

Texture

Ring +/-

Cup +/-

Flesh: Color and texture

Spore print color:

Habitat / Ecology

Occurrence / Season

Look Alikes: **Edible**
 Non Edible
 Toxic- See Following Description

Collection / Storage**Preservation / Preparation / Use History****Special Instruction / Potential Risk****Summary****Example of a Species Entry (without Photographs)**

Name: *Agaricus arvensis*
Accepted Common Name: Horse Mushroom
Other Common Names in Wide Use: None

Introduction and History of Use: This large and stately mushroom is known from grassy areas across cooler regions of North America and Europe and widely collected for food. *Agaricus* is the genus of the Western World's most economically important and widely used cultivated edible mushroom, *A. bisporus* including the button mushroom, Crimini and Portabella. Several wild species are commonly collected and used as food throughout the US.

All *Agaricus* species share a few features making them fairly easy to distinguish. All have gills that start out light cream, become pink to reddish as the cap opens and then mature a dark bittersweet chocolate brown. The spore color is also dark chocolate brown. Almost all species have gills that are free of the stalk and the stalk has a noticeable ring (annulus) that can be single, double or pendulous. At times the annulus disappears in mature fruiting bodies. In dry weather or for individuals fruiting in open sunlight, the annulus can remain fixed to the margin of the cap and get pulled off in tatters remaining attached to the cap edge. The stalk base lacks any form of volva or cup from a universal veil, but it may be swollen in some species. There is one other notable characteristic of *Agaricus*; if you give the stalk of an *Agaricus* a gentle twist it will separate cleanly from the cap without any gill fragments.

Description: *Agaricus arvensis*

Typical size: Large mushroom up to 8 inches in diameter

Cap: Size: 4-7 inches in diameter

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Color: White to cream

Shape: Convex to almost flat

Surface Texture: smooth, becoming scaly with age.

Spore-bearing surface:

Gills: Free of the stem and closely spaced;

Color: maturing from grayish white to pink to reddish to dark brown.

Stem: Size: 3-5 inches long and up to 7/8 in. wide.

Color: White

Shape: equal to tapering upward

Texture: smooth and firm

Ring: Present, membranous and fragile

Cup: Absent

Flesh: Cream to white with mild odor of almonds sometimes present.

Spore print color: Dark bittersweet chocolate brown

The Horse mushroom caps are often 4-7 inches in diameter, but caps up to 10 inches are not uncommon. The cap is white to cream with occasional pale tan markings, tightly rounded in the button stage and becoming broadly convex and finally almost flat in maturity. At times the cap will stain or age pale yellow. The stalk is 3-5 inches long and up to 7/8 inch in diameter, generally equal or tapering toward the cap, with a distinct and membranous ring and occasionally, a broader base. Horse Mushroom gills are grayish to cream-colored in the button stage but then undergo the same color transformation as many *Agaricus*, becoming reddish brown and finally very dark brown. The flesh is firm and cream to white colored. The faint scent of almonds often accompanies this mushroom.

Habitat / Ecology: Horse Mushrooms are saprobes growing on the dead organic matter in coarse lawns, pastures and other open grassy ground such as the shoulders and medians of roads and highways. Occasionally it can be found fruiting on the ground in open woods. Often found fruiting in rings or arcs.

Occurrence / Season: The Horse mushroom frequently fruits in small numbers in late June and early July in a wet summer. The heaviest and most consistent fruiting comes in the mid-late autumn and ends with the onset of a hard freeze. The occurrence from year to year is not predictable and this mushroom is infrequent in both unusually dry and unusually wet years.

Look Alikes: **Edible:** *Agaricus macrosporus* is primarily a European mushroom seen occasionally in Maine growing in association with Spruce. It is of very similar size but

lacks any yellowing color and is usually associated with trees, especially spruce.

Agaricus silvicola and *A. abruptibulbous* These two woodland species are very similar in appearance and habitat. Both are taller with a thinner stalk and smaller cap with a fleshy, pendulous ring on a long slender stalk. Each species has a swollen or bulbous stem base, though it is more pronounced in *A. abruptibulbous*. In addition the scent of sweet almond is often stronger than in *A. arvensis* in the flesh. Both are recognized as good edibles.

Toxic: *Agaricus placomyces* is a smaller, more slender member of this group generally found growing with trees and with dark scales on the cap and the tendency to bruise bright yellow, especially at the base of the stem. Odor is disagreeable or chemically. Causes moderate to severe gastrointestinal distress when eaten.

Amanita bisporigera and *A. virosa*, Destroying Angels contain potentially deadly phallotoxins. This is a pure white mushroom with free white gills, giving a white spore print and the stalk with a fleshy pendulous ring and a swollen base with a cup-like volva. It is a mycorrhizal mushroom growing in association with trees. The Destroying Angels are among our most toxic mushrooms!

Collection / Preservation: Collect firm young caps before they fully open for the best combination of appearance, flavor and durability. Older mushrooms are more strongly flavored, but much more fragile and prone to rot. Sell or use within a several days for the best results. The immature button stage has a longer storage life than the mature mushrooms. Preserve this species by either drying or sauté and freezing. Mature mushrooms can be chopped and cooked down into a sauce Duxelles.

Preparation / Use History: Given the close relationship between the Horse Mushroom and the cultivated Button mushroom, Crimini and Portabella, it is not surprising that it will lend itself to any recipe featuring its cultivated cousins as well as the closely related Meadow Mushroom. It has long history of use in both Europe and North America in a multitude of dishes, from soups to stews, and eggs to pizza.

Caveats / Potential Risks: The yellow staining *Agaricus* species, including *A. arvensis* have been shown to concentrate certain heavy metals from their environment into the fruiting body tissue. For this reason, care must be taken to avoid collection of these mushrooms from contaminated ground including the shoulders and medians of heavily traveled highways. In addition, avoid collections from agricultural lands, golf courses or other landscaped areas where chemical treatments are used or suspected as the mushrooms can become contaminated.

Summary: The Horse mushroom is a common inhabitant of grassy landscape and is notable for its large stature, squat, stolid appearance, white to cream color and the distinctive transition of the free gills from cream to pink to very dark brown. The white stem has a large membranous ring and lacks any signs of a cup. This common, widely eaten mushroom fruits in the summer and fall and has been a favored edible of many

mushroomers for generations.

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