Fungal Strains Info Sheet

Pleurotaceae Family

Aggressive decomposers that grow on a wide variety of hardwood logs, chips, and sawdust. Will also grow on straw, paper products, and coffee. Pleurotaceae fungi can be carnivorous, capturing and feeding on nematodes in the soil to gather additional nutrients. They can also break down hydrocarbons (think petroleum products).

Common Name	Latin Name	Example Pairings	Fruiting Expectations	Notes
Pearl Oyster	*Pleurotus ostreatus*	Ash, elm, maple, oak, poplar	50-80° F, multiple flushes per year	Scientists are studying its ability to remediate polluted soils.
Blue Oyster	*Pleurotus ostreatus var. columbinus*	Ash, elm, maple, oak, poplar	30-60° F, multiple flushes per year	A pearl-oyster variant that prefers cold weather for fruiting.
Pink Oyster	*Pleurotus djamor*	Ash, elm, maple, oak, poplar	70-95° F, multiple flushes per year	Have been known to sometimes grow on bamboo or palm.
Phoenix Oyster	*Pleurotus pulmonarius*	Doug fir, fir, hemlock, pine, spruce	60-85° F, multiple flushes per year	Can break down hardwoods AND less-nitrogenous/nutritious softwoods.
Golden Oyster	*Pleurotus citrinopileatus*	Ash, elm, maple, oak, poplar	70-85° F, multiple flushes per year	Mushrooms are more delicate than those of other oyster varieties.

Hericiaceae Family

Delicious (often compared in taste to lobster) decomposer/parasitic fungus. As parasites, these fungi serve an important ecological role in the forest. They establish on trunk wounds and eventually create large cavities where wildlife shelter.

Common Name	Latin Name	Example Pairings	Fruiting Expectations	Notes
Lion's Mane	*Hericium erinaceus*	Chestnut, maple, oak, sycamore, walnut	55-65° F, one flush per year	Scientists are currently studying lion's mane mushrooms and substances derived from the fungus for neuro-regenerative and neuro-protective effects.
Bear's Head	*Hericium abietis*	Doug fir, fir, hemlock, pine, spruce	Fruits in fall-winter, one flush per year	Little commercial cultivation in the US.
Bear's Head Tooth	*Hericium americanum*	Chestnut, maple, oak, sycamore, walnut. Occasionally found on conifers.	Fruits in fall-winter, one flush per year	Little commercial cultivation in the US.

*Green shading for softwood/conifer-decomposing fungi

Misc. Families

Common Name	Latin Name	Example Pairings	Fruiting Expectations	Notes
Elm Oyster	*Hypsizygus ulmarius*	Alder, beech, elm, hornbeam, willow	55-70° F, two flushes per year	Not a "true" oyster mushroom because it has a stem, but is similar in behavior and habitat to oyster mushrooms.
Mukitake	*Panellus serotinus*	Hardwoods and occasionally found on hemlock	Fruits in late fall and winter, multiple flushes per year	Similar(ish) to oyster mushrooms, though they have sticky olive-green caps and orange-ish gills. Popular in Japan, but relatively unknown in N. America. Scientists have been studying mukitake as a potential treatment of non-alcoholic fatty liver disease.
Shiitake	*Lentinula edodes*	Ash, chestnut, eucalyptus, oak, sweetgum	55-80° F multiple flushes per year	A commonly grown decomposer for a wide variety of hardwood logs, chips, and sawdust. Before developing mushrooms, the fungus will undergo a "popcorn" stage where its surface develops large bumps and discolors reddish-brown.
Trainwrecker	*Neolentinus lepideus*	Doug fir, fir, hemlock, pine, spruce	Cultivation is usually for small-scale remediation projects, so fruiting is less important than colonization	Technically edible, but unappealingly fibrous and relatively tasteless. Get their name from an ability to eat creosote (destroying treated railroad ties). It's a hardy, later-stage decomposer, colonizing old stumps, barkless logs, and wooden fenceposts. If used for remediation, the mushrooms should not be eaten due to potential bioaccumulation of heavy metals.
Nameko	*Pholiota microspora*	Beech, oak, poplar, cherry, plum	55-65° F, two flushes per year	Nameko require high moisture to fruit. After a log is colonized, bury it just below the surface of a pile of leaves or woodchips to help with moisture retention.
Maitake	*Grifola frondosa*	Box elder, cottonwood, elm, oak, willow	55-70° F, one flush per year	Grows at the base of living trees as a weak parasite (takes nutrients, but is not a primary cause of death), and then as a decomposer. To mimic its growing conditions, bury inoculated logs close to the surface of the soil. Can colonize an unburied log, but should eventually (6-8 months out) be buried for fruiting.
Turkey Tail	*Trametes versicolor*	Apple, eucalyptus, honey locust, plum	55-75° F, multiple flushes per year. Mushrooms persist through the season.	A hardy, voracious decomposer fungus that will grow on a wide variety of hardwood and softwood logs, chips, and sawdust. Will also grow on straw and paper products. Turkey tails are inedibly tough, though they can be ground-up and used for soup or tea. Scientists are studying substances derived from parts of the fungus which might bolster cancer therapies.
Birch Polypore	*Piptoporus betulinus*	Birch	Extremely slow-growing and not season-specific	Technically edible, but bitter. This was one of the mushrooms carried by the 5300-year-old mummy, "Otzi," found in Austria. Chemicals in the mushroom are anti-parasitic to whipworm, and strips of the mushrooms flesh can be used as bandages. The mushroom can also be dried and used as a razor strop.

*Green shading for softwood/conifer-decomposing fungi