



Cornell University
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CornellMushrooms.org

Buying and Selling Bolts for Shiitake Cultivation



With demand for log-grown shiitake mushrooms on the rise in New York, many landowners, loggers, and firewood dealers have the opportunity to provide high quality “bolts” for cultivation and benefit from an additional income stream from their woodlots.

Bolts can get between two to three times the price per cord when compared to processed firewood. Harvesting bolts can also be part of woodlot management to improve forest health.

The key difference between bolt harvesting and harvesting for timber or firewood is in maintaining the quality of the bolts from felling to delivery, to ensure the bark is not scuffed or scratched. This requires very careful skidding or better yet, use of a trailer or cart to protect bolts from damage. Bolts with significant damage to the bark are unsuitable for shiitake cultivation and are not valuable.

Bolt Specifications:

Species: The preferred species for cultivation include sugar maple (*Acer saccharum*), all oak species (*Quercus spp.*), American beech (*Fagus grandifolia*), ironwood (*Carpinus caroliniana*), hop hornbeam (*Ostrya virginiana*), and birch (*Betula spp.*).

Quality: The most ideal bolts have a higher amount of outer sapwood compared to hard, inner heartwood. Limbs from large diameter trees, and single stem trees grown on the forest edge and in less dense conditions likely have this characteristic.

Diameter and Length: Specific size should be agreed upon with the buyer before cutting. Generally bolts should be 36 – 40” long and 4” – 8” in diameter. Loggers may find it efficient to deliver logs in 9’ or 12’ lengths to fit trucking demands.

Timing of Cut: Trees can be cut anytime, but are best during the dormant season (Dec – Feb) and should be delivered within 1 month from cutting. If storage is necessary, bolts should be stacked in a shady spot.

Sustainability: Trees harvested for bolt production should be selected with woodlot improvement and sustainable yield objectives in mind. Guidance from a professional forester is recommended when starting out. For more information on sustainable woodlot management and small-scale timber harvesting, visit Cornell Cooperative Extension’s forestry resource site: www.forestconnect.info



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Pricing for Bolts

The price paid per bolt depends on a number of factors, including who will do the work, what the costs of harvesting are, and what the buyer is willing to pay. A buyer and seller must ultimately agree on a price that works for each party.

A standard cord measures 96” L x 48” H x 48” W. Note that a “shiitake” cord will measure somewhat differently: 96” L x 48” H x 36” W. Based on an average diameter of 5.5 inches, there would be about 162 bolts per cord. Round down to 150 to allow for air space and crooked bolts.



Suggested Pricing:

\$.50/bolt for salvage work where a buyer does all the work on site

\$1.00/bolt harvested by the seller and picked up at harvest site by the buyer

\$2.00 - 3.00/bolt with the seller harvesting and delivering to the buyer

Assuming 150 bolts/cord, this equates to between \$300 and \$450 per cord in value.

Follow Firewood Hauling Regulations

Current New York State DEC regulations state that it is “illegal to transport untreated **firewood** more than 50 miles from its source within New York State.”

(<http://www.dec.ny.gov/animals/44008.html>)

Wood products **not intended** for use as firewood are exempt from this regulation, which applies to wood intended for use as mushroom bolts. The exception is for species under federal quarantine, which include ash and hemlock, neither of which are used in mushroom cultivation. It is recommended that sellers document the intended use of shiitake bolts in their invoicing, and that buyers always strive to purchase bolts as close to their farms as possible as a matter of good practice. **Logs of ALL species cannot be transported across state lines.**

*Learn more & find suppliers in New York State: www.CornellMushrooms.org/suppliers
Contact: Steve Gabriel, sfg53@cornell.edu*