

# Japanese knotweed

## Surface Excavation Control Protocol

### Control Method

Surface excavation is done after the above-ground stems are cut. It involves removing a substantial amount of underground biomass (roots and rhizomes) from the Japanese knotweed colony.

This can be done manually or with an excavator. Although most of the work can be done in a few days, this method requires regular site inspections and the elimination of all new growth over several years.

A geomembrane must also be installed over the site, otherwise root fragments remaining in the soil will sprout new growth (see the "Geomembrane Installation Control Protocol" information sheet). Without this membrane, Japanese knotweed will grow back and complicate site restoration.

### Warning!

It is essential to communicate with the relevant authorities (municipalities, government environment and wildlife departments, excavation information services, etc.) before undertaking mechanical excavation.

Permits may be required depending on the site's location and the presence of underground pipes.

There are several methods for controlling Japanese knotweed. The choice of method depends on the following factors:

- the size and density of the colony;
- Site characteristics (type of soil, slope, proximity to a body of water, etc.);
- available resources (financial, material and human);
- the amount of time available.



▲ Japanese knotweed © Denys Lortie



▲ Manual excavation © Denys Lortie



▲ Mechanical excavation © Denys Lortie

### Equipment

- Shovel
- Pick
- Rake
- Hoe
- Gloves
- Heavy-duty plastic bags
- Cable ties (e.g., Ty-Raps)

For mechanical excavation, you'll also need :

- Excavator
- Dump truck
- Container

### Procedure

- ① Remove all of the above-ground plant matter. This procedure is described in the "Repeated Cutting Control Protocol" information sheet.
- ② Dig up the surface, either manually or mechanically, to remove most of the roots and rhizomes. Plan to remove roots that are dozens of centimetres below the soil surface in an area approximately two metres wider than the colony's perimeter.
- ③ Dispose of all the plant matter with other household garbage or have it sent to a landfill. Do not compost the plant waste or use green waste collection. See the [Waste Disposal](#) section below for more details.

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### Waste Disposal

A single fragment of Japanese knotweed stem, root or rhizome can start a new colony. That is why appropriate waste disposal is an essential step in controlling this plant.

#### Manual Excavation:

- 1 Put **ALL** plant fragments in bags (stems, roots, rhizomes, etc.).
- 2 Using cable ties, seal the bags in the same place where the root biomass was dug out.
- 3 Carry out an onsite examination and cleaning of all tools, the soles of your shoes and any other equipment used on the cutting site (e.g., wheelbarrow wheels).
- 4 Dispose of the bags with other household garbage or have them sent to a landfill. **DO NOT** compost Japanese knotweed or use green waste collection.

#### Mechanical Excavation:

- 1 Manually pick up the remaining roots and rhizomes after the mechanical excavation.
- 2 Put the plant matter and soil in a container.
- 3 Clean the excavator's bucket and tracks thoroughly, as well as all the equipment that came into contact with the plant, including the soles of your shoes.
- 4 Empty the container into a landfill or at an ecocentre. Clean the container thoroughly before using it again.



▲ Roots © Denys Lortie



▲ Shoot clump © CQEE

Need more information?

Check out the other information sheets, the video on controlling Japanese knotweed, and the Web sites of the Comité ZIP des Seigneuries, the Comité ZIP Jacques-Cartier and the Conseil québécois des espèces exotiques envahissantes.

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