



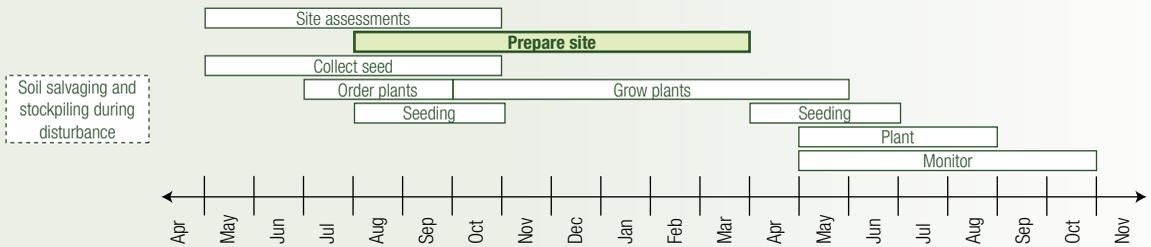
A Guide to Mounding



Preparing optimal
microsites for seedling
establishment

Mounding is a highly versatile technique for addressing site conditions that may limit forest recovery on a wide range of reclamation sites. The technique is particularly useful on wet and cool sites typical of boreal and sub-boreal forests. Mounding exposes microsites that may enhance the growth rates of target vegetation and should be followed with a vegetation management plan (e.g., planting, seeding, weed control) to prevent competition (Fig. 1).

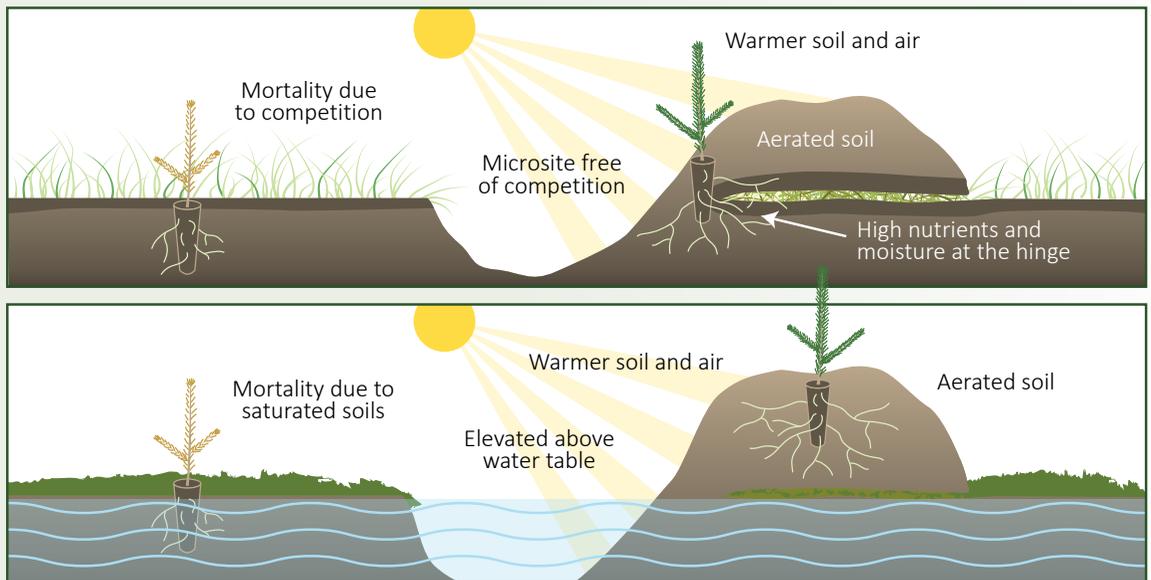
Figure 1. Mounding occurs during site preparation.



Why use mounding?

Mounding addresses a wide range of site limiting factors. It is especially effective at reducing soil compaction, creating an elevated microsite above the water table on wet sites and producing a microsite that is free of competing vegetation in the short term. Mounds provide microsites that are warmer, better aerated and lead to better drainage and nutrient availability (Fig. 2).

Figure 2. Advantages of mounding on mesic and wet sites.



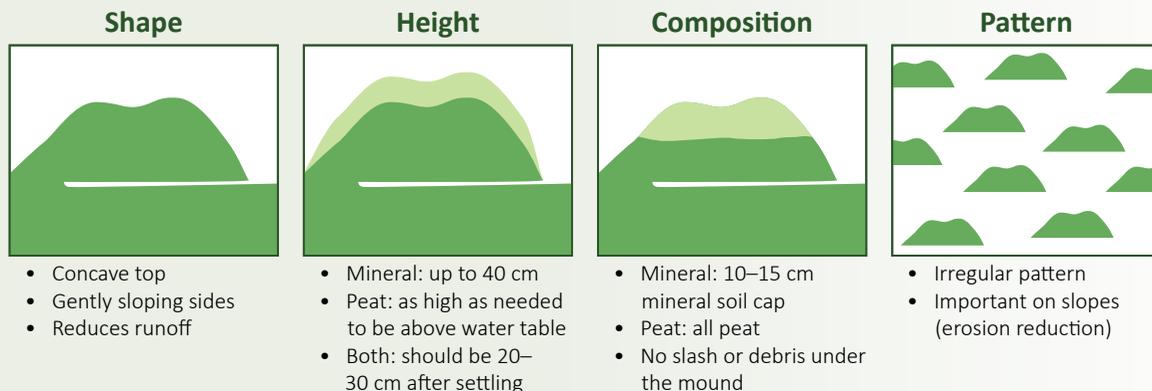
When not to use mounding

While mounding is a very versatile site preparation method, it is not appropriate in all circumstances. On sites that are very dry or have a high risk of summer drought, mounds will typically dry out and the trees growing on them may not survive. For this reason, mounding should also be avoided on sunny, exposed or south-facing slopes and ridges. To some extent, the risks associated with mounding can be avoided by considering the planting spot carefully. When choosing a planting spot, the supervisor/planter should have a basic understanding of the objectives for mounding and the limiting factors for the area.

General guidelines for mound creation

As with all site preparation techniques, mounding is only effective if it is applied properly. Operator training and quality control are essential to ensure that mounds meet targets for shape, height, composition and pattern (Fig. 3).

Figure 3. Guidelines for mound creation.



Equipment: options and limitations

Mounding can be applied using an excavator, dozer or skidder. Each option requires different attachments and is suitable for specific site conditions. Excavators with their comparatively low ground pressure are the preferred option for wet sites, while dozers and skidders may compact wet or fine-textured soils (e.g., clays).

Excavator

An excavator with a mounding rake attachment can be used to create any type of mound on any type of site, but it is also quite costly. A standard excavator bucket is effective for creating peat mounds, and a mounding rake enables operators to move slash and debris more easily to the side.

Dozer

A dozer with a mounding attachment (e.g., a Bracke moulder) can only be used on sites with slopes less than 30%. When used with a slash-parting V-plow or rake, this equipment configuration can be effective on sites with moderate to heavy slash loadings.

Skidder

A skidder with a mounding attachment can be an efficient and cost-effective technique for mounding a large area, such as a site that is large and open or has long, linear features. It can only be used on easily accessed sites with slopes less than 20%.

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Also available under the title : Guide pour la formation de buttes – Préparation de microsites optimaux pour l'établissement de semis

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