



Beneficial Management Practices

for cropping near watercourses and wetlands

BMP - Maintain runoff control structures in good working order

Installing soil conservation structures in your field is one of the most effective measures to reduce runoff and keep your topsoil on the field. To function properly, structures must be stabilized with grass. Until the grass establishes on newly constructed waterways, jute erosion mat is essential to prevent damage from heavy rains.

What is jute erosion mat?

Constructed grassed waterways are designed to accommodate large flow volumes during runoff events. A key element in the proper functioning of a grassed waterway is the flow surface must be stabilized with a “highway mix” of grass varieties particularly suited for erosion control structures. As these grasses take time to germinate, it is crucial that the waterway be protected by some other means between construction and grass establishment to prevent damage to the waterway.

Jute erosion mat, a loosely woven mesh of bio-degradable material, installed immediately after seeding in the flow portion of the waterway and anchored with landscape staples, is the standard strategy for protecting waterways until the grass establishes.

Jute erosion mat is sold on PEI in two forms: for larger jobs, one or more bales may be necessary. A bale contains approx. 825 metres (2700 ft.). For smaller jobs, jute can be purchased by the roll, typically about 70 metres (230 ft.) long. Both the bale and rolls are 4 feet wide. Landscape staples are required to secure the mat to the ground. Each bale will require a box (1000 staples) for proper installation.





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How much mat do I need for my project?

A grassed waterway 40 ft. wide requires 3 strips of 4-foot-wide jute matting to protect the bottom 12 feet of the waterway where the most flow will occur. Your PEIDAL Soil & Water Engineer can advise you on the amount of mat required for your specific project.

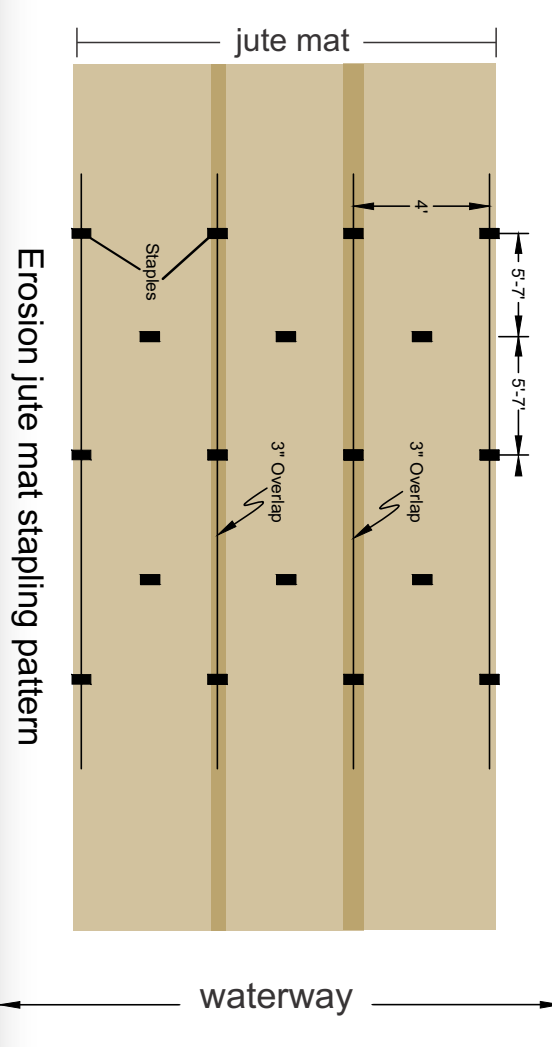
Tips for installing jute erosion mat

Unloading the mat

If you are using a bale of jute matting, the supplier will drop it off to you on a pallet. The bale will be 48 inches wide, 48 inches deep and approximately 30 inches high. If using a pickup truck to move the bale to the waterway, pallet the bale width-wise onto the truck bed. When at the waterway, cautiously remove the steel straps. The jute mat should fan-fold off the bale easily. Keep a utility knife handy, as the folded mat is bunched with twine into sections of about 150', a measure to prevent large segments of mat from falling off at one time. Ensure that the truck is driven to the side of the waterway to avoid forming tracks in the waterway where the channel flow will concentrate.

Securing the mat

Jute erosion mat works best when the mat is in good contact with the soil. Take care when laying the mat out not to leave rocks, tree roots or other debris under the mat. When applying three 4-foot widths of mat, place the first width in the lowest portion of the waterway first and work outwards overlapping the edges by a minimum of 3 inches. Staple the mat at 5 to 7 foot spacing and in the pattern shown in the diagram. A small mallet or specially designed staple pounder (available for loan from the PEIDAL) can be used to set the staples.





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Benefits of using jute erosion mat

1. The mat will intercept precipitation and greatly reduce the splashing effect of raindrops on bare soil.
2. The mat will increase the surface roughness of the channel, decreasing the erosivity of the channel flow.
3. The mat will absorb moisture from rain or dew and keeps the planted surface moist, creating ideal germination conditions for the grass seed.

Using jute erosion mat will protect both your soil conservation structure from damage and reduce any potential impacts to downstream areas. As our summer rainstorms increase in intensity, jute erosion mat has become an essential part of the soil conservation project.

Information Sources

Johnson. (2013). Determining the Manning's Coefficient of Roughness for Channel Lining Materials [University of the Sunshine Coast, Queensland].

https://research.usc.edu.au/discovery/fulldisplay/alma99449505102621/61USC_INST

Soil Conservation for Potato Production Second Edition (2020) Prince Edward Island AgriWatershed Partnership, PEI Department of Agriculture and Land, PEI Department of Environment, Water, and Climate Action

https://peiawp.com/wp-content/uploads/2021/04/Soil-Conservation-for-Potato-Production-Second-Edition_V3.pdf

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