

7.30 MULCH

All permanent seeding with prepared seedbeds are required to be mulched. The mulch shall be "blown" and "tucked in" as soon after seeding as possible. Machine printed weight tickets are required for all mulch used. The inspector should receive the weight ticket and obtain a count of the bales at the time the material is delivered to the job site. The average bale weight can then be calculated.

Following the last rolling with the cultipacker, mulch should be applied to the specified areas at the required rate. A straw mulching machine capable of spreading mulch uniformly is used for applying mulch. Areas inaccessible to a straw mulching machine should be mulched by hand.

Immediately after mulch material has been applied, it should be anchored with a mulch stabilizer operated on the contour.

Mulch shall be Certified Noxious Weed Seed Free Mulch as certified by the Iowa Crop Improvement Association (ICIA) or an adjacent state's Crop Improvement Associations. Bales may have a white certification label or will be bound with purple and yellow twine. A transit certificate is also available from the ICIA.

Refer to http://www.agron.iastate.edu/icia/Forage_Mulch.htm for more information on the ICIA Noxious Weed Seed Free Mulch Program.

7.31 EXAMPLE CALCULATION (English Units only)

Example of area to be mulched at the rate of 1 1/2 tons/acre:

Measured area is 2.6 acres, the average weight per bale is 48 pounds. Compute as follows: 1 1/2 tons/acre X 2.6 acres = 7,800 lbs. of mulch required for the area.

Number of bales required: $\frac{7,800 \text{ lbs.}}{48 \text{ lbs./bale}} = 162 \text{ bales}$

7.32 HYDRO-MULCH

Hydro-mulch (or hydraulic mulch) is typically applied following the application of seed, but it may be used as a stand-alone practice just like straw mulch.

If seeding is performed in conjunction with hydro-mulching, the specifications require hydro-mulch to be applied as a separate operation.

There are different types of hydro-mulch, and each has different material properties and typical uses:

- Wood Cellulose Fiber:
 - Produced from whole wood chips or a combination of whole wood chips and recycled fiber from sawdust, recycled paper, chipboard, or corrugated cardboard
 - Use is typically limited to slopes 6:1 or flatter.
 - Typically requires 24 hours to dry before rainfall occurs in order to be effective against erosion.
 - Expected longevity is 3 to 12 months.

- Bonded Fiber Matrix (BFM):
 - Produced from long-strand wood fibers held together by organic tackifier and bonding agent
 - May be used on slopes up to and including 2:1.
 - Typically requires 24 hours to dry before rainfall occurs in order to be effective against erosion.
 - Expected longevity is 3 to 12 months.
 - Provides superior erosion protection than straw mulch or wood cellulose hydro-mulch.

- Mechanically Bonded Fiber Matrix (MBFM):
 - Produced from long-strand wood fibers and crimped, interlocking synthetic fibers.
 - May be used on slopes up to and including 2:1.
 - Requires 2-hour cure time, thus provides fast protection against erosion.
 - Expected longevity is 12 months or greater.
 - Provides superior erosion protection than straw mulch or wood cellulose hydro-mulch.

The most commonly used type of hydro-mulch used on DOT projects is BFM.

All types of hydro-mulch are dyed green to facilitate visual metering during application.

The minimum rate of application is typically in the Estimate Reference Information. Otherwise, it should be installed at no less than the manufacturer's recommended minimum rate.

[Materials IM 469.10, Appendix C](#) provides a list of approved sources of hydraulic mulch.