

US EPA ARCHIVE DOCUMENT



Success Story

Golden Compost

Texas Department of Transportation (TxDOT) thinks compost is worth its weight in gold. TxDOT runs one of the most advanced, widespread compost-use programs in the United States and has conducted more than 20 demonstrations across the state proving the benefits of compost.

Like many states, Texas used to struggle with roadside erosion. Erosion of roads is generally caused by rain water flowing near the paved surfaces. This problem can be prevented by surrounding the pavement with vegetation, but if vegetation does not take root immediately after road construction, the soil will wash away and plant growth will become extremely difficult. Repeated attempts at revegetation are timely, costly, and often don't work due to poor soil conditions.

Thanks to a partnership with Texas Natural Resources Conservation Commission (TNRCC), TxDOT found that compost helps prevent the erosion of roads by helping vegetation grow quickly. Because compost also has the ability to absorb large amounts of water, TxDOT has experienced a reduction in surface runoff and soil loss and increased rates of percolation. Using compost saves the state money through lowered construction expenditures and avoided future erosion maintenance.

TNRCC and TxDOT took their knowledge on the road, demonstrating compost's benefits on problem areas throughout Texas. Support from Texas districts has been overwhelming: municipalities have dubbed compost production a viable alternative to landfilling garbage and a solution for roadside erosion. Compost is currently being used in more than half of TxDOT districts.

An example of TxDOT's success with compost can be seen along State Highway 108. Two years after this road was built, vegetation was sparse on the surrounding lands, leading to high levels of runoff and potential erosion of the highway. TxDOT conducted an experiment on this area by treating one side of the road with 500 cubic yards of manure compost while leaving the other side untreated. What resulted was considerably stronger seed germination on the compost-amended side of road.

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An even larger success for TxDOT is the IH 20 in Big Spring, Texas. Here, a badly eroded hillside laid barren for nearly 30 years through multiple unsuccessful attempts at seeding, hydromulching, and blanketing. The department realized it was time to bring in the compost. The slope was treated with composted feedlot manure and cotton burrs. TxDOT also applied wood chips to weigh down the lightweight material. Not only did this compost remain through 40 mile per hour winds on the day of application and resist a heavy rainfall shortly after application, but 2 months later, the site was heavily vegetated by a healthy, stable grass community.

Every year, nearly 4 million tons of yard trimmings are dumped into landfills in Texas. The state now gives its districts up to a 20 percent discount on state waste tipping fees if they ban brush from their local landfills. This step not only saves landfill space, but allows for the creation of more compost. TxDOT has drafted various specifications for compost, allowing the state to purchase close to 300,000 cubic yards of this material for roadside projects.

As for the future, TxDOT has committed to using more compost for roadside vegetation and erosion control projects. TxDOT and TNRCC have given demonstrations of the benefits of roadside compost in 23 of Texas's 25 districts. They plan to visit the remaining two districts within the coming year, as well as begin educating contractors on how to effectively apply compost.

For information of TxDOT's compost specifications, check out its Web site:
<www.dot.state.tx.us/DES/landscape/compost/specifications.htm>.