

Amazing Product Turns Gravel Into Solid Surface

North Dakota ranchers, farmers and township road supervisors have started using Permazyme 11X[®] to harden gravel roads. Permazyme 11X[®] turns compacted earth hard like shale in days. What's more, it even works in ponds to seal leaks and to eliminate vegetation growth.

Permazyme 11X[®] was developed after a farm family noticed that the hog feed they were using would compact the ground around the feeder. Since then, it has been marketed in California and surrounding states for nearly 40 years. It was recently introduced into the upper Midwest, Canada and Alaska.

Pacific Enzymes, Inc. has worked with enzymes since the first experimentations in the stabilization of soil and has been in the business of soil stabilization since 1969. The result of their work in this field is the resounding success of Permazyme 11X[®], which produces all weather roads, increases compaction up to 15% with no extra effort during construction, is environmentally safe in all applications, is simple to use, and is economically practical.

Cost Effective

Permazyme 11X[®] is a cost-effective solution that reduces construction costs and long-term road maintenance costs while maximizing sustainable value. Since Permazyme 11X[®] uses non-granular, cohesive fines contained in the road base as a binder, a less expensive, higher fines base material may be used. This allows you to use available soil in the construction area, eliminating the need to haul in clean base.

This cured Permazyme 11X[®] base reduces moisture penetration and increases soil density, creating a superior and stable road

base that enhances longevity and significantly diminishing long-term maintenance costs.

Advantages

- A Green Company/Product
- Decreases Water Surface Tension
- Reduces the Plasticity Index
- Reduces Permeability Coefficient
- Increases Soil Bearing Capacity
- Increases Compaction

Very little product is needed to harden the soil. Pacific Enzymes recommends a 500:1 ratio of water to Permazyme 11X[®]. Depending on soil types and climate, the ratio can be as high as 2,000:1.

How much to apply and how deep it needs to be mixed depends on soil type, climate and use.

One gallon of Permazyme 11X[®] in solution treats about 150 cubic yards (4,000 cubic feet) of soil. However, Permazyme 11X[®] should not be applied if rain is imminent within 48 hours.



Farm equipment is all that is needed to prepare the soil and mix the solution. An industrial roller or packer will do the best job compacting. Discs and rototillers may also be used to mix the soil. After the correct grade is achieved, compacting is key.

Once compacted and allowed to set for a few days, the ground begins to harden. It's easy to reactivate the enzyme to make the soil pliable down an inch or two. It requires as little as one pint of Permazyme 11X[®] per 1,000 gallons of water sprayed on the surface. This reactivation of the enzymes allows for reshaping or resurfacing.



Permazyme 11X[®] is only available through *Pacific Enzymes, Inc.*, or other authorized distributors.



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Permazyme 11X[®] 

Permazyme 11X[®] is an enzyme product provided by Pacific Enzymes, Inc. and has been used as a stabilizing agent for soils and reclaimed roadways worldwide.

Permazyme 11X[®] is a green, earth friendly product used in building highways, secondary roads, lakes, ponds, feed lots, livestock auction areas, farm equipment yards, silage pits and rural roads. Using Permazyme 11X[®] will result in better stability, lower construction costs and 80% less maintenance.