



Dichtomatik Americas
1087 Park Place | Shakopee, MN | United States

Optimizing more than just equipment

How shaft seals helped an invention, help an industry, help the environment

With EPA regulations becoming stricter amidst one of the worst draughts at the time in 2008, farmers and their equipment in California were left in the dust. Farmers were forced to dramatically cut equipment operating hours to decrease emissions. At the time, because of extremely fine sediment and sandy conditions, farmers' spent the most time tilling and preparing fields. However, as a result of increased EPA regulation, farmers were not able to fully till their fields, thus decreasing their overall crop yield.

In response to the decreased operating hours, the Optimizer by Tillage International was born. Farmers and engineers Kevin McDonald and Mark Hoffman combined their knowledge and experience to create a one-pass tillage system which would cut operating costs as well as stay under the maximum operating time. However, due to overwhelmingly sandy conditions, the Optimizer encountered serious problems in the most unexpected places.

The Optimizer saw constant sediment intrusion which caused massive corrosion in the pricey bearing systems in each individual disc and planter costing thousands of dollars in replacement parts and downtime. The original seal protecting the bearing systems failed from multiple reasons, all of which were from extremely harsh conditions.

To solve such expensive problems, Dichtomatik, a leader in sealing solutions, engineered a protective cassette seal custom tailored for the Optimizer in 96 separate applications. Each heavy duty cassette seal contained a 7 lip-barrier labyrinth for protection against dirt infiltration and corrosion. Additionally, each seal posed zero damage and wear on the shaft and bearings of the tiller because all wear was contained by the seal's inner sleeve.

Once finished and fully implemented, the tiller saw immediate results. Studies showed that there was a 50% reduction in fuel costs and 70% in tilling labor time. And with only 8 weeks from consultation and design to delivery of products, Optimizer users were able to maximize their profits in speedy time.

In total, after seeing benefits from the improved Optimizer, more farmers began using the Optimizer, which lowered costs, ultimately increasing profit and reducing air pollution.

Today, Dichtomatik continues to provide protective cassette seals and other high quality industrial sealing technologies to Tillage International and other heavy duty equipment manufacturers in the agriculture industry. Further, backed by a team of highly skilled engineers, Dichtomatik is constantly testing its products, including cassette seals in the Optimizer, through the most adverse conditions in the lab and the field.



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By:
Dustin Cochart
Marketing & Communications Coordinator
Dichtomatik Americas
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