

2010 Alaska Innovation Grant Report

Sod Harvester

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Sod Harvester Report

This report is in regards to the findings and success/failure of a turfgrass sod harvester that was purchased with aid from the Innovation Grant through the Division of Agriculture.

Pyrah's Pioneer Peak Farm and the Pyrah family has been farming in Alaska for over 30 years and have primarily dealt with upick vegetables, hay, and grain production-until we decided to expand into sod production. Though established in the agriculture industry, we found ourselves as a fledgling company to the industry when we began producing sod 6 years ago. We began with very modest means. The harvest of the sod took many hours and took literally dozens of hands for the manual labor involved. We realized very quickly that something needed to change. With innovations in the sod harvesting business evolving so quickly over the last decade, especially with the automation of the harvesters, we began researching options to become more efficient. We found a number of harvesting machines available to the industry, but there were very few sod cutting machines being used in Alaska. In an effort to expand sod as a viable agricultural industry for ourselves and Alaska we felt that it was imperative to bring these innovations to Alaska. We believed that purchasing a midsize harvester would allow us to not only maximize our own production capacity and minimize costs but in turn benefit the public and industry as a whole.

The machine we purchased [with aid from this grant] was a mid-size sod harvester and proved to be an extremely efficient piece of technology. The actual workings of the machine are as follows: The machine has a harvester attachment functioning beside a tractor and requires a two man labor crew - one on the back stacking rolls and one in the drivers seat. A blade in the front begins by digging the sod from the field. Next it measures the sod for length, and lays it on a conveyor belt. At this point, the belt draws the sod upward towards a unit that rolls each measured slab individually. A crew member then grabs the roll and stacks it on a pallet (that is also carried by the machine). Eliminating unnecessary steps, labor, and time is what this innovative machine is all about.

The result of implementing this technology was success – extreme success. We have found such positive results since purchasing the sod harvester that it is nearly impossible to come up with anything negative! Specifically addressing efficiencies and goals attained because of the harvester purchase are those referring to labor and cost, crop productivity of the land, and extension of growing season.

First, based on the manufacturers reports of the capabilities of the equipment, we had originally projected the possibilities of increasing our current productivity by a staggering *one thousand percent!* To give you an idea, our production before the purchasing of the sod harvester was 100-150 rolls per hour with a crew of 4-5 workers. With the new equipment we had the possibility of harvesting approximately 1500 sq ft per hour and would require a crew of only two. Once we received and started using the machine we found the results pleasantly supportive of those expectations set.

Through the implementation of the sod machine we not only increased our current harvesting capabilities but also the crop productivity of the land. As sod is a crop that can be planted directly after harvesting, the speed with which we can get it off the ground directly relates to how often we can replant. With utilization of farmland and the evaluation of the prWe estimate our crop productivity almost doubled with the use of the new machine. In fact, planting fast *enough* almost became the new issue because we were able to go through so much product at such an increased rate.

Finally, in regards to the length of the season being extended or shortened as a result of the machine, we found a slight increase in our growing and harvesting season. If there were an uncertain variable of the productivity of the new sod machine, it would be this. The length of season for agriculture in Alaska is variable at best anyway, so to base our season on the average of two growing seasons numbers probably wouldn't necessarily be very accurate. But based on our raw numbers it seems to have lengthened our growing/harvesting season by about three weeks. This is partially due to availability of laborers, ability to harvest off a more quality product early or late in the season, and weather for the seasons in question.

With the help of this grant we were able to purchase a mid-size sod harvesting machine for making sod much less labor-intensive, productive, and cost effective. These savings are going to be passed directly onto the public in the form of keeping costs of purchasing sod stable for at least two growing seasons and, ideally, *lowering* costs in the long run. We would definitely support anyone who would consider purchasing this type of equipment in the future and encourage it as a wise investment. We are hoping through the use of this machine to help make turtgrass production a feasible industry option in Alaska. Having acquired this equipment we can encourage purchasing or sod and ultimately help to expand the use and production power of sod in Alaska. We would like to thank you for the contribution of the requested funds through the innovation grant and the support you give those involved with agriculture in this state.