TECHNICAL PROGRESS REPORT PERIPHERAL MOWER BLADE

Fifth Quarter Report
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On July 5, 1999 a demonstration with mowers using the peripheral mower blade was held at the Adel, Georgia airport. There were people invited from a wide range of mower usage and fields of professions. The local county road department, the school system, the county commissioners, several agricultural equipment dealers, and highway road contractors from Georgia, Florida, and Alabama were invited. The nineteen-foot peripheral mower that was tested in Florida was used in the demonstration to mow a large volume of grass and covering a lot of acres in a short time. It's ability to move fast and with low horsepower requirements made it quite impressive. The quality of the cut of the grass was also examined very closely by all that attended. The smaller seven-foot mower was also demonstrated. This unit attracted a lot of attention with its ability to mow in close areas and handle high grass. The cut of the grass from this mower was also examined closely. The road department personnel questioned the mower's ability to absorb foreign objects without them being thrown from under the deck. We did a small demonstration with several metal objects and operating the mower over the top of them. The entire group of people was impressed.

Still other demonstrations were held in Georgia and Florida. At Vero Beach, Florida on July 27 we demonstrated a seven-foot mower to several customers from golf courses and condominiums. This demo was held on a land development where the contractor was requested to maintain several large lots that were required by the owners to be mowed by a flail mower due to the liability. The contractor did not want to do this with a flail mower due to the high cost of operation. The peripheral mower resolved the problem by providing the safety with the lower cost of operation.

On July 28 we demonstrated the seven-foot mower to the Florida Department of Transportation. Inspectors from Indian River county and St. Lucie county were present. They were able to first examine the mower blade and then operate it in a real life

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environment. After explaining the operation and abilities of the mower we operated it along about a mile of highway next to a guardrail and partially on the asphalt. The mower was able to mow under and up next to the guardrail closer than the mowers now being used by the highway department. It did not throw the bottles, cans, and other debris on to the asphalt even though part of the mower was on the asphalt. Inspectors were very impressed with the operation of the peripheral mower blade and the fact that all of the demonstrations were being done with a twenty-four horsepower tractor. Most seven-foot mowers require a minimum of forty horsepower. An inspector for the Florida Department of Transportation commented that the seven-foot peripheral mower would be a better unit to use on I-95 instead of the mowers that are now used. The peripheral mower would be a larger benefit due to the fact that it could be operated with a smaller tractor and require less maintenance and fuel cost.

On September 16 a demonstration was completed on a turf farm near Adel, Georgia that requested it from information an employee brought back from an earlier demonstration he had attended. This turf farm supplies turf for highway roadside, football fields, and golf courses. The owners of the turf farm were impressed with the way the peripheral blade cut the grass without bruising it. They were also impressed with the low horsepower requirements and lower fuel consumption.

Testing of the peripheral mower blade and decks are still being done. We have thus far determined that the eight-inch blade with a thickness of three-sixteenths is very desirable in lower grasses. We are working with the twelve-inch peripheral blade that has proven its capability to handle higher grasses, which sometimes will be found along the edges of the highway right of way. Testing of the nineteen-foot mower is still being conducted to determine the most favorable drive-line to use in the harsh environment these mowers are used in.

To make this program successful we need to be able to handle a lot of different applications. As we test the different size blades we find the particular applications that the blade we are testing will fit.

So far we have covered over fifteen hundred acres of test with a wide range of grasses being involved. The test have included the twelve inch peripheral blade from an eighth

inch thick to one quarter inch thick, and the eight inch peripheral blade from an eighth inch thick to three sixteenths thick

I have ordered twelve pilot mowers of the seven-foot model for distribution into the market as an end user acceptability test. The reason I used the seven-foot mower is because the seven-foot is a very popular model size that will fit into a large market application and are not as expensive to build as the larger nineteen-foot model. These mowers will be placed in the market area starting next month and will continue through next spring.

More demonstrations are being planned for next month. The first show will be at the Moultrie Sunbelt Expo. This is a large agricultural show where public exposure to the peripheral blade will begin to take place. In November a second show that we are going to display the peripheral mower blade is at Myrtle Beach, South Carolina. At this show the peripheral mower blade will be introduced to golf course maintenance personnel, and owners.

On the last technical progress report I reported that I had found that Specialty Stamping of Adel, Ga. had overcharged me in the sale of a die which I needed. I also reported that I would try to convince them of their mistake, but would consider legal action if needed. I have reached a settlement with them through the help of an attorney, and received a sixteen thousand-dollar refund. I deposited the money back into the account that I have for this grant program. I have continued spending of the funds in the usual manner, keeping track of all the monies and the place of the expenditures. You will be able to find the refund in the financial report enclosed with this report.