

TRAFFIC MODIFICATIONS IN ALFALFA HAY
A GROWER'S EXPERIENCES AND RESULTS

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Newhall Land and Farming grows 1700 acres of alfalfa on its New Columbia Ranch in the Firebaugh area and harvests the majority with its own equipment into standard size bales for sale mainly to the dairy market.

After listening to Bob Sheesley tell us for the last 10 years that modifying the wheel traffic of our alfalfa harvest equipment would increase our yields, and determining that the task was not as impossible as it had once looked, we proceeded this year to do so.

We converted two New Holland 500 balers, one New Holland 1075 bale wagon, one Allen rake, two International Harvester 464 tractors, and one 4610 Ford tractor for a total price of approximately \$7600. With alfalfa hay selling for \$80/ton, 95 tons of increased production would be necessary to pay for the conversion. With our acreage, that works out to a .055 ton/acre increase. With no other major cultural practices changed, the ranch's overall yield this year was .6 tons/acre above the previous ranch high.

We maintained a test plot of 25 acres with the modified traffic and 25 acres with the old method. In just four cuttings on this plot there was a .6 ton/acre advantage for the modified traffic. However, during the course of the experiment it was determined that the 25 acres with the modified traffic may have been a naturally stronger part of the field, so that area could have done better without modification. This discovery puts some doubt in our figures and all we can say at this point is that the theory looks good but we do not have conclusive proof that it works yet.

Another possible advantage appears to be less grass. The grass in our fields tends to grow in the areas with the weakest stand of alfalfa. The areas with the heaviest wheel traffic usually have the most grass and it looks as if reducing the wheel traffic areas may also be reducing the grass.

The modifications made to our equipment and practices are as follows:

- Purchased two custom baler tongues and hitches that allow the balers to follow directly behind the tractors.
2. Extended the rear wheels of the swathers so they follow the drive wheels.
 3. Moved all tractor wheel spacings to 77" and installed belly pans.
 4. Drove the bale wagon in the opposite direction of baler travel
 5. Removed the outside dual tire on each side of the rake.
 6. Modified the bale chute on the baler to drop bales 6' to the left thus allowing the bale wagon to follow in the correct path.

All of the modifications were done ourselves except for the purchase of two custom baler tongues and hitches. We had some concern, before we started, that driving the bale wagon in the opposite direction of the baler would cause problems. We found that as long as our bales were solidly packed this did not turn out to be a major problem. The conversions changed our no-traffic areas from 49% of the total to 67.2%.

SUMMARY

The modifications cost very little in comparison to the possible gains. While tonnage did increase substantially this year, we cannot positively identify the modifications as the cause. We do feel however, that the conversions are a step in the right direction and test plot work will be continued next year to substantiate any gains. The possible grass control alone could pay for the equipment changes with the eventual hope of also increasing our stand life.