

NEW ZEALAND: A GRAZIER'S TALE
February 2014 | Hay and Forage Grower Magazine
Dennis Hancock, Forage Extension Specialist
The University of Georgia

For most Americans, New Zealand is known for its mild climate, kiwifruit, and scenic vistas like those in backdrop of the epic “The Lord of the Rings/Hobbit” movies that were filmed there. Yet to those of us who focus on grazing management, New Zealand is renowned for its emphasis on turning grass into milk, meat, and wool.

Pasture-based agriculture accounts for nearly 60% of NZ’s agricultural economy and over 30% of their exports. There are 30.9 million sheep, 6.5 million dairy cattle, and 3.7 million beef cattle but only 4.5 million people in New Zealand.

Pasture is extremely important in New Zealand’s Waikato region, which boasts a full third of NZ’s beef, sheep, and dairy production. How can so much be done in a region that is roughly the size of Vermont? To answer this question, I recently led a group of scientists, University Extension educators, and producers from GA, AL, FL, and SC on a tour of the Waikato region. On our tour, we picked up many efficient tools and tips. Though too many to number here, a few highlights of themes are worth mentioning.

First, NZ farmers intensively-manage grazing on their pastures. Strands of polywire and polytape are strung across pastures on nearly every farm. Pasture is rationed out like feed in a feed bunk on an American farm. Faster than one can load up and feed a round bale, they will put one strand of polytape around the perfectly sized area for what their herd needs. Supplemental grain is fed in the milk parlor or in portable troughs that move with the cattle.

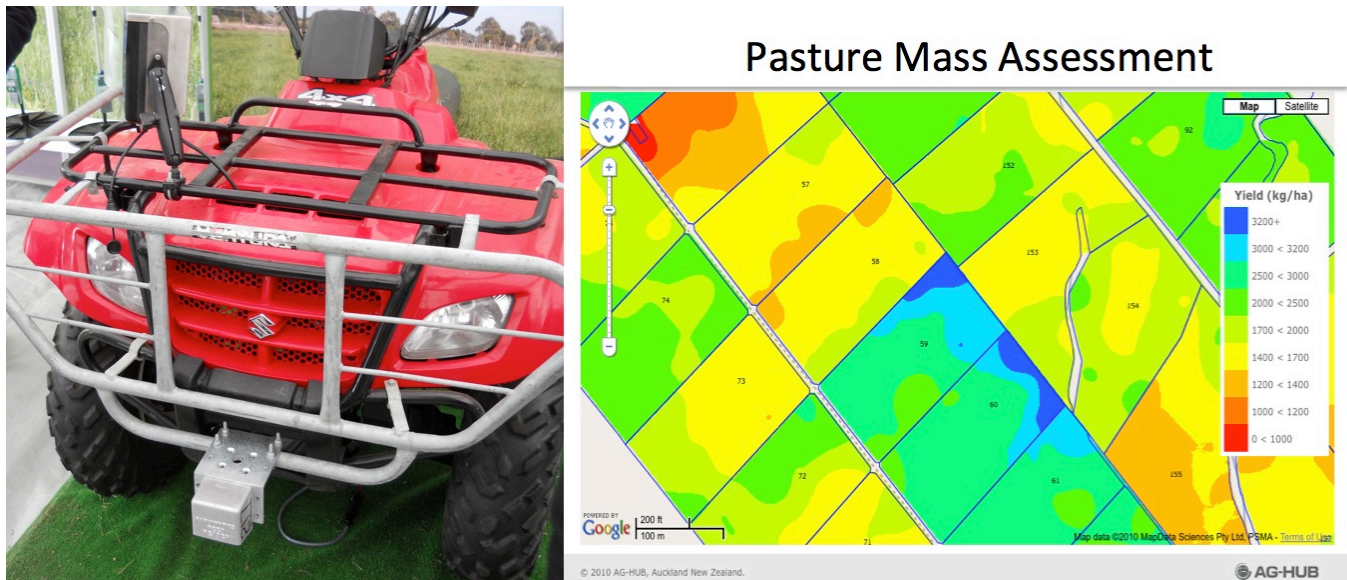
With equal focus, NZ farmers emphasize providing the most productive and nutritious pastures. They re-establish their pastures much more frequently than in the U.S. New varieties of perennial ryegrass are talked about with the same vigor and knowledge as they talk about the latest bulls. Perennial forage crops produce their highest yields in the first two to three years after establishment. NZ producers take full advantage of this yield bump. It is common for NZ producers to renovate 5-10% of their land each year, using the latest and greatest technology. Seed costs are of minor concern. Of utmost concern is producing the highest quantity and quality of feed that is possible in their pastures.

In the process of renovation, NZ farmers use a lot of annual forages as “break” or smother crops. Some of the most common of these are the forage brassicas (like turnips, kale, and swedes). These provide quick cover after killing out a worn out stand. Brassicas and other temporary forage crops are also often used to produce additional feed at strategic points in the season.

Another interesting fact is that NZ farmers utilize a lot of information technology, or IT, to manage their livestock and their pastures. Like many other countries, New Zealand has a national animal identification mandate. However, many NZ farmers would use the radio frequency identification, or RFID, tags even if those laws were not in place. These producers have integrated RFID tags into management systems that automatically collect impressive datasets (animal weight gains, milk production, health records, breeding plans, etc.) and prompt the user with what needs to be done. For example, a ewe that has not gained well may be automatically sorted into a holding pen prompting additional attention, or a dairy cow could be automatically drafted into a pen of other cows who need to receive a shot as part of a breeding protocol.

Pasture management software and forage sensors are also becoming a common occurrence in New Zealand. Using an ultra-sonic sensor on the front of a four-wheeler (or “quad” in kiwi-speak), NZ farmers can rapidly and accurately measure the amount of forage in their pastures. In a matter of a few minutes, the producer can generate a yield map of their pastures. Using a series of these maps, a

producer can determine which areas of the fields grow the fastest and are being grazed the most. The farm manager then can decide whether or not to prioritize such areas for applications of fertilizer or weed control, etc.



An ultrasonic sensor, similar to the sensors on modern car bumpers, can measure the height and density of forage. Mount it on a four-wheeler, combine with GPS, and, with appropriate software, a pasture yield map can be generated.

Finally, one of the most intriguing things about NZ farmers is that a substantial number of them frequently travel to other countries and study other farming systems. Certainly, looking abroad to study what does and doesn't work in other situations can teach one a lot about what will or won't work on one's own farm. Certainly, not everything that is done in NZ is applicable to our farms. But, much can be learned from our neighbors.

Table 1. Basic information about New Zealand’s pasture-based agricultural industries.

| General Topic | Description | Unexpected Findings |
|---|---|---|
| Climate and Soils | Mild climate. Rarely even close to freezing or hotter than 80°F. Rainfall ranges from 40-55” per yr. Soils are volcanic parent material with 4-12+ inches of top soil. | Freezing is rare. When wet, soils get really boggy and pastures get damaged. Typical soil pH (5.8 - 6.0) was similar to that of pastures in GA. |
| Primary Forage/ Pasture Crops | Perennial ryegrass, white clover, chicory, and some brassicas (turnips, canola, etc.) | Most dairies there feed 10-40% of the diet as corn silage. Primary supplemental feed: palm kernel. |
| Land Costs and Ownership | \$10-25,000 per acre. Primarily owned by producers rather than rented. | Many of the farms operated by managers farming on shares, most commonly 50:50 arrangements. |
| Average Age of Producers | 58 years old. | This is similar to the average age in the U.S. (57.1 in 2007). |
| Equipment and Machinery | In general, their equipment is very similar to that in the US. Most farmers do not own more than one tractor, one or two utility implements, a mower, and an ATV or motorcycle. | Nearly all of the tasks requiring equipment are done through custom hire arrangements with professional contractors. |
| Fertilizer and Energy Costs | Fertilizer costs were similar to or slightly higher than in the US. Electricity (mainly hydro-electric) is similar to or slightly higher than in the U.S. Fuel prices (approx.): Gas = \$7.00/gal; Diesel = \$5.00/gal. | Though most vehicles in NZ are smaller and more fuel-efficient than in the US, there were a surprising number of SUVs and light trucks. Most farmers drove small SUVs or a light truck. Farms rarely would have a vehicle larger than a ½ ton pickup. |
| Labor Costs and Availability | Quite high labor costs. Most farm managers made the equivalent of \$40-50,000/yr plus benefits. General laborers would earn \$12-15/hour. Relative to the US, there is not a major shortage of skilled labor in the beef, sheep, or dairy industries. | Holiday/Vacation time and pay are mandated. These labor costs are high because of the share-arrangements and the strength of the career-path and training programs for those interested in getting into farming. Immigration into NZ is tightly controlled. |
| Marketing of Beef Cattle | Livestock are sold directly to order buyers for spot-price. Farmer does not normally transport animals. | Marketing of meat animals in NZ, like in the US, is primarily as a commodity. Strategies to capture more value in the marketing chain are not as common there as in US. |
| Rural Economy | Vibrant and strong, despite the current worldwide economic recession. Vast majority of businesses are small, family operations. | Very few large chain stores. Every small town and rural community has thriving businesses. Very few storefronts were vacant. |
| Large Animal Veterinary Services | Most communities have numerous vets. No difficulty in getting prompt service. | Large animal veterinarians earn an income that is competitive with other segments of veterinary service in NZ. |