

## **Bellvale Farms Engages in Dairy Farm Soil & Water Conservation Practices that are Environmentally Sensitive.**

*Source: Orange County Soil & Water Conservation (<http://www.ocsoil.org>)*

**Barnyard Water Management** – Areas around livestock housing facilities need special protection measures due to the heavy amount of traffic and animal waste they receive. Barnyard water management systems are designed to minimize any potential runoff concerns from these heavy-use areas.

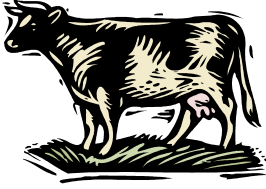
The first principle is to keep clean water clean. Roof water and runoff from any areas upslope from the barnyard must be collected and conveyed by pipes or other means to a safe outlet.

Secondly, improvements are made to the barnyard itself to control soil erosion, reduce muddy conditions, and make it easier to collect and handle manure. Usually, concrete surfaces are the best solution.

Third, any remaining runoff from the barnyard area should be properly managed. Typically, a settling area is provided to remove solids that will settle out by gravity. These solids can then be collected and placed in the manure spreader for field spreading. Drainage from the settling area is usually routed to a grass strip or other similar filtering practice to further remove solids, nutrients and related pollutants from the barnyard runoff.

Manure cleaned from the barnyard, as well as that collected from inside the barns, is applied to our crop fields according to a spreading plan that contributes to crop fertilizer needs and soil health while minimizing runoff potential.

**Intensive Grazing System** – Grazing has always been a common practice on livestock farms. Allowing animals to harvest vegetation themselves is cheap and natural. As economics pushed many livestock farms to get larger and adopt strictly controlled feeding systems, grazing often found only limited use. In recent years, though, many farmers have drastically changed the way they look at economics as well as ‘quality of life’ issues. Farms that have decided to go back to emphasizing grazing often find their daily routines to be less taxing and more enjoyable compared to feeding systems that rely heavily on processed feeds and keeping animals confined. Economically, total milk production may decrease when dairy farmers move to heavier reliance on grazing but expenses tend to go down as well – often resulting in a higher overall profit margin. Significant advances have been made in the science of grazing which have allowed for greater efficiency in use of pasture grasses and conversion of its energy resources into milk or animal weight gains. The key principle of intensive grazing (also known as rotational grazing) is that animals are fenced into small pasture lots (paddocks) so that they harvest more of the vegetation. Animals are moved



## **Bellvale Farms Engages in Dairy Farm Soil & Water Conservation Practices that are Environmentally Sensitive.**

frequently, sometimes daily, allowing grazed paddocks to recover and produce re-growth more quickly. Excess growth can be mechanically harvested and stored as hay for winter feeding. There is even evidence that milk from grass-fed dairy cows provides unique health benefits (lineolic acid).

From a soil and water conservation standpoint, grazing systems reduce the need for production of crops such as corn that are much more prone to erosion than pasture. Pasture land generally requires less inputs of fertilizer and pesticides, further benefiting water quality.

**Conservation Tillage** – Ever hear of Jethro Tull? Not the rock band that sang Aqualung, a long-ago agriculturalist credited with invention of the moldboard plow. Ever since then, the standard mode of field preparation has been ‘inversion tillage’ – flipping over the top eight or so inches of topsoil thereby burying whatever protective cover may have been on the soil surface. This is an effective (though short-term) means of weed control, but leaves the soil surface vulnerable to erosion. Riding around Orange County or elsewhere, you may see corn or other crops growing right up through plant cover from the previous crop. This practice is known as conservation tillage, or minimum tillage. Herbicides are usually used to control the old vegetation, however it should be noted that herbicides are used on most large-scale crop farms – whether they use conservation tillage or not. The key factor with conservation tillage is that amendments applied to crops, including herbicides and fertilizers, tend to stay put in their target location and do the job they were intended to do rather than moving off site with eroded soil particles.