

PASTURES

The following article is published to answer the most commonly asked questions about the use of the AerWay with regard to Pasture Renovation.

Dick Psolla has worked as an Independent Brookside Laboratory Soil Consultant for the past 28 years. His experience covers applications in both Agriculture and Turfgrass related uses of the AerWay. His clients range from local farms to the top PGA golf courses in the United States. Dick has done extensive research using the AerWay in almost every type of application involving improvement of soils and plant growth. In this article, we will examine the most commonly asked questions about Pasture Renovation with the use of the AerWay.

PASTURE RENOVATION

Most pastures are pastures because that's all the land is good for. As long as land is subjected to the elements of weathering and traffic (from animals or machines harvesting the forage), the soils will develop problems which are essentially the same everywhere. The severity of a particular problem will vary according to the regional weather patterns, and agronomic and related management practices on a particular farm. In most cases it is not practical to keep the animals off pasture lands when weather conditions are undesirable and soil conditions are conducive to compaction.



We know that compaction is the biggest and probably the most important factor that limits high yield because of its effect on root growth, pore space, water movement and water holding capacity of a soil. The soil is no longer what nature originally gave us.

Regardless of where you farm, there are certain factors that are necessary to your business of farming. All would agree that first you must have a fertile soil on which to grow crops. But there are three other factors that must be present before crop production can be profitable on that fertile soil. We know 95% of what affects the growth of a plant is light, water, and air and only 5% is fertilizers, so the effectiveness of the fertilizers used which is the largest out of pocket expense in getting maximum yield is controlled by the 95%. By alleviating the compaction and allowing greater water absorption we automatically increase the amount of air brought into the root zone, because water movement is the primary vehicle to pull oxygen into the root zone.

Q. How does the AerWay help to manage pasture land?

Ans. Because of the shattering and fracturing action of the AerWay, we can cultivate the top 6 to 8" of the soil without destroying the existing cover crop. This relieves the compaction and increases the water holding capacity. Because of the unique design of the AerWay, you can accomplish this without creating soil surface conditions that are conducive to erosion.

Q. What do you mean by unique design?

Ans. Because of the alternating position of the tines on the roller, there is never a continuous furrow or grooves to channel water like most other pasture renovating equipment which use coulters or chisels all in a straight line.

Q. What other advantages do you see for pasture renovation and the use of the AerWay?

Ans. #1. The ability to incorporate lime and fertilizer.
#2. To create conditions more conducive to microbial activity which breaks down the dead plant residue and animal waste. The cultivating action incorporates large amounts of this residue into the top 4" to 6" of soil to raise the organic and humus levels of the soil.
#3. We can use the AerWay to renovate old pastures without plowing or using conventional tillage practices that are conducive to wind and water erosion.

Q. How does the use of the AerWay effect chemical use?

Ans. #1. By using the AerWay, you'll be speeding up the breakdown of toxic levels of chemicals used in the past.
#2. By shattering and fracturing the soil surface prior to chemical use, you'll enhance the effectiveness of the chemicals.
#3. Plants that are under stress are the most susceptible to disease and insects. By creating a better soil environment with the AerWay and producing a healthier plant, we've found we're able to substantially reduce chemical use.
#4. The AerWay creates a porous soil surface that will accept chemicals more rapidly and enhances the ability of the operator to comply with D. E. R. regulations concerning harmful run off into water sources.

Q. When do I use the AerWay?

Ans. #1. If we use it to eliminate compaction and increase water holding capacity, we need to do it in early spring when soil conditions are not overly wet or extremely dry.
#2. If we use the AerWay for renovation and over seeding,

we need to consider the regional weather conditions to germinate the seed. For cool season grasses, August and September are the best, because you have less broad leaf pressure in competition for moisture.

#3. Using the AerWay to alleviate compaction does not create conditions that cause the loss of soil moisture. The slit closes and fills with loose soil and brings capillary moisture to the surface to aid in the germination of the seed.

Q. What's the best procedure you've seen for pasture renovation?

Ans. #1. Use the AerWay and seeder attachment to apply seed the first time over. (If the seeder attachment is not available use broadcast seeder after first aerification.)

#2. Go over it the second time in a different direction with the AerWay pulling a chain harrow.

Note: Liming and fertilization should be done prior to using the AerWay.

Q. Why should I even consider using the AerWay tillage program instead of the conventional tillage methods I've been using for years?

Ans. Because you can accomplish the same goals without exposing your soil to excessive wind and water erosion, and keep the organic matter in the top 4" where nature intended it to be.

Q. Is it going to make me more money?

Ans. Current value system is controlled by dollars. Too many times, the individual will risk doing short term harmful practices to improve his profit position. I believe we need to have a philosophy and a level of respect for the soil that says I am going to leave my soil in a more productive fertile condition than when I got it. If I can show you that at the end of a growing season your soil is in better condition and you've reduced your input cost of tillage, fertilizers and chemicals so that your net in-come is greater, is that an asset? Yield increases will naturally follow providing we are managing our soil asset properly. But yield is relative to input cost. The bottom line is that I am improving my soil for the future and my net income is better.

Q. What will I be able to see the first year using the AerWay?

Ans. If you start out in the spring you should see an increase in yield and less heaving in the fall. But the biggest

advantage is that you are creating a living soil by creating an environment that is more conducive to microbial activity.

Q. How do you respond to the people who want to wait to see if a conservation tillage program will work on their farm?

Ans. The AerWay and other conservation tillage methods have been in place long enough to show positive results. The land has been and is being abused by conventional tillage methods. It is imperative that as stewards of the land we start putting the land back into better condition. We need to start managing on land as an asset. Soils under good conservation practices improve. The organic levels increase, the microbial activity and release of natural nitrogen improves, the soil has a greater resistance to compaction,

they resist wind and water erosion, soil water holding capacity increases, and they warm up faster in the spring. The soil only wears out under abuse.

Q. Is the AerWay the total answer?

Ans. No. The AerWay is a very effective tool to alleviate and control compaction in the top 6 to 8" without creating conditions that cause severe wind and water erosion.



Q. What other tool do I need?

Ans. If the penetrometer shows that there are compacted layers on plow pans deeper than 8", it is suggested that the use of a deep tillage tool be used to break up the deep compaction. Doing this enhances the use of the AerWay.

Q. Why does it enhance the use of the AerWay?

Ans. Because now you are creating a larger reservoir for air and water that encourages deeper root growth.



AerWay is manufactured by the Holland Group of Companies

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