



## Golf Courses

The following article is published to answer the most commonly asked questions about the use of the AerWay on Golf Courses.

Dick Psolla has worked as an independent Brookside Laboratory Soils Consultant for over 40 years. He has experience with both Agriculture and Turfgrass related uses of the AerWay. His clients range from local farms to the top PGA golf courses. Dick has done extensive research using the AerWay for soil improvement and plant growth. In this article, we will examine the most frequently asked questions about the use of the AerWay on Golf Courses.

### **GOLF COURSES**

A common problem in all turf areas is exposure to the elements of weathering and compaction from people and machines. The severity of a particular problem will vary according to the regional weather patterns, and agronomic and related management practices on a particular turf area. In most cases it is not practical to keep the players or equipment off turf areas when weather conditions are undesirable and soil conditions are conducive to compaction.

We know that compaction is the most important factor that limits healthy turf 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 are, there are certain factors that are necessary to your business of turf management. All would agree that first you must have a fertile soil to grow turf grass. There are three other factors that must be present before plant growth can be profitable on that fertile soil. We know that 95% of what affects the growth of a plant is light, water, and air and only 5% is fertilizers, so the effectiveness of the fertilizer (which is the largest out of pocket expense) is controlled by the 95%. Water movement is the primary vehicle used to pull oxygen into the soil profile.

When we alleviate the compaction and allow greater water percolation, we automatically increase the amount of air brought into the rootzone.

**Q. What advantages does the AerWay have over conventional core aerifying?**

Ans. There are several advantages that the AerWay machine will provide.

- #1. The engineering and design of the AerWay tine creates a shattering or fracturing effect that relieves compaction between the holes without glazing the side walls. This enhances water and air movement. Conventional core aerification methods have a built-in glazing effect that restricts lateral water and air movement.
- #2. The AerWay creates more pore space and leaves a larger cavity under the surface for root development. Research data shows the AerWay to improve deep root development 120% over the control. The solid coring aerator reduced deep rooting by 15%. The AerWay did this without increasing water losses from evaporation.

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**Q. How can that happen?**

Ans. Because the shattering action allows the slit to fill back with loose soil and the first mowing closes the top of the soil to control moisture loss.

**Q. How does this improve water and air movement?**

Ans. By relieving compaction and loosening the top 7" of soil, we create more pore spaces and increase the water holding capacity of the soil. The primary functions of the downward movement of water in a soil profile is to draw in the oxygen and air. With core aerifying, you have two open holes and the atmospheric pressure is the same in both holes, you cannot get air to move into the soil between the two holes.

- #1. We can relieve compaction in the top 7" allowing increased light, water and air movement without creating a big mess on the surface.
- #2. The initial investment is about half the cost of conventional coring type equipment and the cost of maintenance per acre is about 46% less than for coring type equipment.

**Q. How does the light, water and air movement affect the "Anaerobic" black layer?**

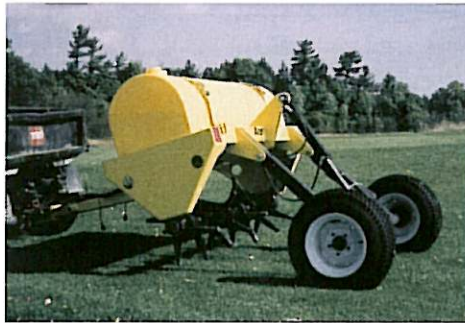
Ans. The black layer cannot exist in the presence of air. So by relieving compaction, we improve the percolation of water into the top 6 to 8". With the downward movement of the water, we automatically and hydraulically draw oxygen and air through the black layer which creates an aerobic environment that is not conducive to black layer formation.

**Q. Does the AerWay help eliminate thatch?**

Ans. Yes. Because of the AerWay method of cultivation, we improve the light, water and air balance making it more desirable for liming and fertilizer corrections to be made more efficiently. This allows for a higher level of activity of the soil microorganisms that control thatch build up, (such as earth worms, desirable soil bacteria).

**Q. Can I use the AerWay as a tool to overseed?**

Ans. The AerWay is a valuable tool in improving and overseeding turf grass. It can be used to revitalize established turf or adjusted to prepare a seed bed in a bare area where turf is non existent.



**Q. How does the use of the AerWay affect 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 venting, 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 regulations concerning harmful run off into water sources.

**Q. When do I use the AerWay?**

Ans. The most effective time to use the AerWay is just after the Spring rains and when early traffic has created compaction. This prepares the soil surface for efficient use of rainfall and irrigation water during up coming heat stress periods. Another good time to use the AerWay is monthly on heavy traffic areas such as cart paths, or fairways that have heavy cart traffic. Then use the AerWay in the fall to aerate for compaction and/or overseeding.

**Q. What can I expect to see the first year?**

- Ans. #1. Elimination of local dry spots in irrigated areas.
- #2. Reduced damaging effects of dryness and wear in traffic areas.
- #3. Reduced run off on steep slopes that create wet areas at the bottoms.
- #4. Reduction in water usage.
- #5. Quick response and greater efficiency of applied fertilizers and lime.
- #6. You'll be able to perform the cultivating practices of loosening up the soil without interfering with play.

*Holland reserves the right to alter specifications without notice or obligation*



*AerWay® is manufactured by the Holland Group of Companies*

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