

## ALFALFA and HAY

The following article is published to answer the most commonly asked questions about the use of the AerWay with regard to Alfalfa and Hay.

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### ALFALFA

Q. How does compaction effect the longevity of my alfalfa stand?

Ans. Most alfalfa stands deteriorate in about 4 years. The primary cause is compaction. Compaction is caused by mowing, raking, and baling of the alfalfa. The layer of compaction is in the top 2 to 4 inches. As the compaction layer increases the concentration of the toxic enzymes given off by the alfalfa bloom increases in the soil surface. This prevents the inner seeding to improve the stand. Compaction also causes a reduction of the lateral movement of feeder roots in the top 4 to 6". The other advantage in preventing the accumulation of compaction is that it improves air movement which causes the toxins of the enzymes to oxidize, thereby allowing inter seeding of alfalfa to improve existing stands without taking them out of production.



Q. How does the AerWay improve this situation?

Ans. The AerWay program will control the accumulative level of compaction by shattering or fracturing the top 6 to 8 inches of soil. This allows increased moisture absorption and improves the in-corporation of fertilizer and lime into the root zone.

Q. How much damage will the use of the AerWay do to my existing stand?

Ans. The splitting of the crowns seems to stimulate more growth on the alfalfa plant, and there has been no evidence of the AerWay negatively affecting yields.

Q. What about causing diseases in the damaged crown?

Ans. My observation is that there has not been any noticeable

increase in disease caused by damage to the crown. Most stresses on alfalfa stands are brought on by the improper management of light, water, air and fertilization. 95% of what affects the growth of a plant is light, water, and air and only 5% is fertilizer, so the effectiveness of the fertilizers used by the plant is controlled by the 95%. By eliminating the compaction and allowing greater water absorption we automatically increase the amount of air brought into the root zone. The downward water movement is the primary vehicle to pull oxygen into the root zone. The healthier plant is more disease resistant.

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 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 DER regulations concerning harmful run off into water sources.

Q. When do I use the AerWay?

Ans. it depends on conditions. The ideal time to use the AerWay is to start out with a new seeding, and never allow compaction to become a problem, but established seedings can be improved with the use of the AerWay. The most effective time to use the AerWay in the growing season is after the first cutting to eliminate compaction and prevent runoff of spring rains, which helps to improve the second cutting.

The next most effective time to use the AerWay is in the fall immediately after the last cutting to improve water movement and prevent soils from becoming water logged, which may cause heaving.

Q. How do I use the AerWay to improve my established stand?

Ans. Aerate in the fall and use herbicides to control undesirable grasses (if present), then follow up in the spring with a second aerification and overseed. (Note...you should perform a minimum of two aerifications at least 120 days apart in stands older than 3 years for best results.)

Q. Does it help if I run the AerWay 2 or 3 passes at one time?

Ans. No, going over a field 2 or 3 times at the same time is not recommended because it produces a condition that is detrimental to water movement.

Q. Don't all those holes create a loss of moisture?

Ans. No, because the action of the AerWay hole is that it fills back in with loose material. This stimulates capillary activity and retains soil moisture.

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. Our 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 and high chemical use. It is imperative that as stewards of the

land we start putting the land back into better condition. We need to start managing our land as an asset. Soils under good conservation practices improve - the organic levels increase, the microbial activity and the release of natural nitrogen improves, the soil has a greater resistance to compaction, it resists wind and water erosion, soil water holding capacity increases, and it warms up faster in the spring. The soil only wears out under abuse.

Q. Is 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 or plow pans deeper than 8", it is suggested that you use a deep tillage tool to break up the deep compaction. The combination of the two processes creates an excellent environment for plant growth.



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

Ans.. Because now you are creating a larger reservoir for air and water which will encourage deeper root growth.



AerWay is manufactured by the Holland Group of Companies

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