

Compaction, compaction, compaction... Yes, we must talk about it! Machinery is getting bigger, and many farmers admit now that they can see their tractor's tracks. But how can we reduce it, even better, avoid it?

First of all, there are two types of soil compactions: surface compaction, which is influenced by air pressure in the tires, and sub-soil compaction, over 12 inches, which varies according to the weight on the wheel.

Surface compaction

To reduce surface compaction, there are few possible solutions:

- putting less air in the tires,
- widening or increasing tire size,
- doubling the wheels or changing tire category.

Less air will affect fuel consumption. The French magazine Terre-net recently published an article on this subject, entitled Comment transmettre un maximum de puissance au sol? According to this source, a reduction from 22 psi to 14 psi, with a variation in tire model, optimizes traction and enables a 36% reduction in fuel consumption.

There are several tools available to ensure the correct tire pressure. In fact, many tire companies have their own online application or software to guide you.

Reducing surface compaction offers several advantages to the farmer. These include greater comfort and better traction, both of which are not to be underestimated. As the following photo shows, a longer footprint with less air pressure in the wheel (photo 1) will have greater traction and lower fuel consumption than the example in photo 2. The manufacturer must check with the wheel load when adjusting the pressure, as very low pressure increases the risk of dislodging or breaking the tire.



Subsoil compaction

To reduce subsoil compaction, weight per wheel need to be modified. weight per wheel of less than 3.5 tonnes allow for circulation without damaging the soil. According to the latest compaction research, the pressure at 50 cm should not exceed 50 kPa. As this is difficult to measure, it's best to prevent it. Having a soil profile can help you discover compaction problem.

Every little step you can take to reduce compaction is beneficial to your soil health. A first step would be to make an inventory of your machines that have more than 3.5 tons at the wheel and find the tire chart to optimize pressure adjustment.