It's a ripper article.

Phillip Mackie, Project Officer, SCF

The Kojaneerup ripper gauge site was managed by Josh Goad for the third & final year in 2020. The paddock was duplex sand which had been clayed and incorporated at the start of the year. To determine the benefit of deep ripping, this paddock had three 50mx50m squares marked by GPS across the paddock. Due to the soil variation across the paddock one replicate was placed on a shallow duplex to gravel, another a medium depth duplex and the third over a deep sand duplex. For simplicity of measurements SCF used satellite NDVI with an accuracy of 3m to determine crop health over the season and used yield mapping of the individual squares and the area directly around the respective squares to determine the yield increase from ripping.

Ripping at this site happened in late April to an approximate depth of 500 mm. The paddock was sown to barley and received an estimated 372 mm of growing season rainfall. On average the ripping resulted in a 1.3 t/ha increase in yield over the three duplexes with the greatest difference coming from the medium duplex. The ripping also resulted in a significant increase in the NDVI value of between 0.03-0.1 over the entire growing season. Full results on this trial site will be in our trials review booklet, out in April.

RIPPER GAUGE VARIATION IN 2021-22

2020 was the last year of the ripper gauge project. However as some of you may recall the Kojaneerup site in 2018 suffered significant wind erosion. Unfortunately, this was not an uncommon occurrence for ripper gauge sites in the project. To target this issue, the GRDC is funding SCF and other grower groups to investigate the option of deep ripping post-seeding. This would result in higher soil moisture and less risk of wind erosion for farmers; however, the downside is the damage to plants and their establishment and the subsequent impact on yield.

SCF will manage one trial site in 2021, there will be three different post-seeding ripping treatments compared to ripping pre-seeding. Members who attended the 2018 spring field day may recall Andrew Fowler from Esperance describing how they effectively deep rip post-seeding in their farming system. The objectives of the demonstrations will be to quantify the loss of yield (if any) at the three different post-seeding times and evaluate the logistics of deep ripping at this time in the growing season. Deep ripping after seeding could be a viable option for fragile, erosion-prone soils in our region.

SCF have funding to complete one site in 2021, and we will also monitor the results for the following season. If you are interested in hosting this trial research, please contact Nathan Dovey at SCF to discuss.

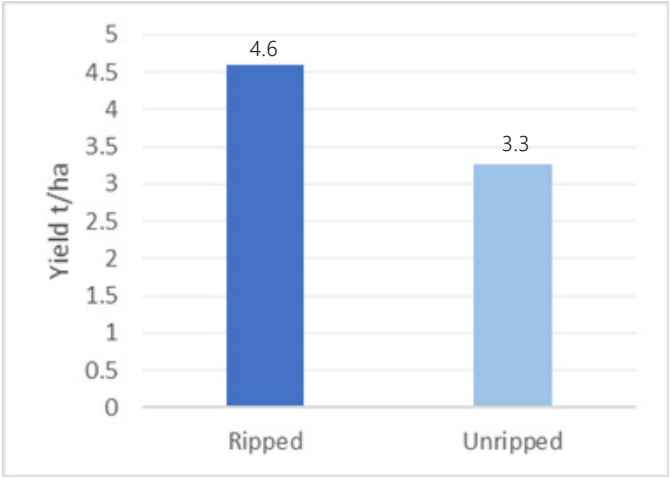

Figure 1: Average yield results from ripped and unripped replicates on a clayed sandy duplex in Kojaneerup.

Figure 2: Image of Nufab deep ripper used to achieve an approximate 500mm deep amelioration.

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