Supplementary material "Transition from flooding to sprinkler irrigation in Mediterranean rice growing ecosystems: Effect on behaviour of bispyribac sodium".

Text S1. Moreover, considering all incubation times, on average the DHA was about 1.2, 1.4, and 1.4 times greater in CTS than in NTS7, NTS, and CTF, respectively, suggesting that total microbial activity, as estimated by DHA, was not a good predictor of BS dissipation.

Text S2. The DHA values in the soils treated with the pesticide were higher in all treatments under anaerobic than under aerobic conditions, at least in the first stage of the incubation experiment (Table 3; Fig. 1). This is consistent with previous studies indicating that DHA reached higher values at lower soil water potential, lower oxygen diffusion rate, and lower redox potential, characteristics typical of anaerobic systems (Brzezińska et al., 2001; Wolinska & Bennicelli, 2010). Although the highest values of DHA corresponded to anaerobic conditions, at the end of the study, on average there remained 39.2% of the BS under aerobic conditions compared to 62.1% under anaerobic conditions (Fig. S1), confirming that neither was microbial activity a good predictor of BS dissipation under anaerobic conditions.

References

Brzezińska, M., Stępniewski, W., Stępniewska, Z., Przywara, G., Wlodarczyk, T., 2001. Effect of oxygen deficiency on soil dehydrogenase activity in a pot experiment with triticale cv. Jago Vegetation. Int. Agrophys. 15, 145-149.

Wolińska, A., Bennicelli, R.P., 2010. Dehydrogenase activity response to soil reoxidation process described as varied conditions of water potential, air porosity and oxygen availability. Pol. J. Environ. Stud. 19, 651-657.

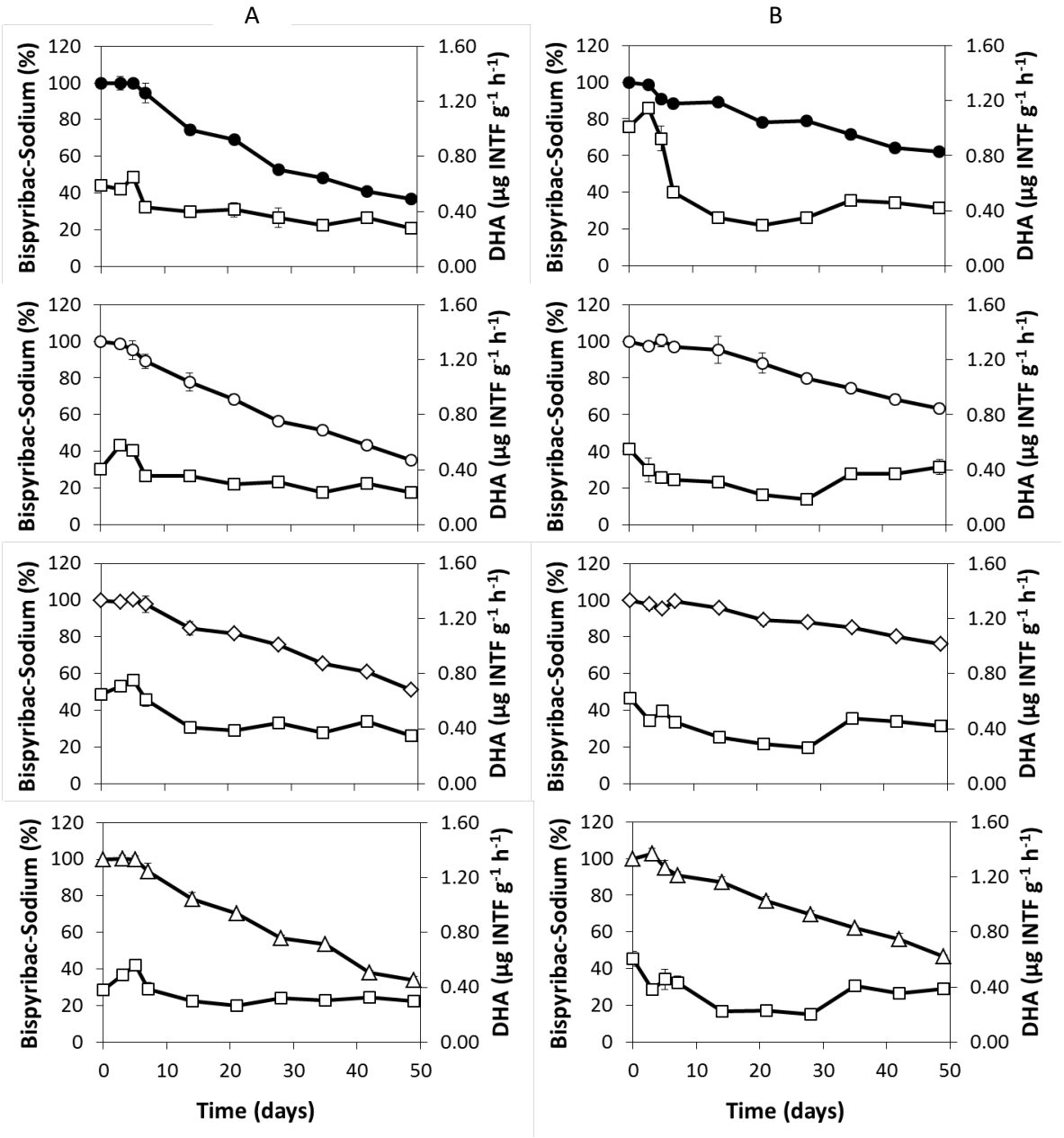

Figure S1. Effect of different management regimes on bispyribac-sodium dissipation and dehydrogenase activity (□) on soils under aerobic (A) and anaerobic (B) conditions. NTS7 (●), NTS (○), CTS (◇) and CTF (△). Error bars represent one standard error of the mean