INTRODUCTION

Nowadays, to ensure supplies for the population, it is paramount to maintain the sustainability of rice cultivation. Herbicides application play a key role managing the weed competition, improving labor efficiency, maintaining water management and facilitating effective crop residue management. The use of organic amendments is an interesting option to improve soil fertility, although it could affect the bioavailability and efficacy of herbicides. In this sense, there is limited information on the effect of compost application on weed control and rice production.

The OBJECTIVE of this work was to assess the influence of biochar organic amendment on the efficacy of two selected herbicides, pendimethalin and profoxydim, in rice crop, as well as their impact on its final yield.

MATERIAL & METHODS

Field trials were carried out in Seville (Spain) with a pre-emergence herbicide, Stomp Aqua (a.s.: pendimethalin), and a post-emergence herbicide, Aura (a.s.: profoxydim). Field dose and half field dose were the treatments performed with biochar and conventional fertiliser.

RESULTS & DISCUSSION

Efficacy of herbicide treatments

Three visual evaluations (V1-V3) were carried out at different phenological stages of the rice crop, from emergence (BBCH 14) to maturity (BBCH 89). The percentage of weed control Echinochloa spp. and/or Leptochloa spp. was determined for each treatment used.

At harvest time, two samples (each of 0.25 m²) of rice crop and weed were collected from each plot. The parameters measured were:

- Fresh weight in rice and weeds
- Dry weight in rice and weeds
- Number of stems in rice and weeds

CONCLUSIONS

✓ Visual evaluations showed to be a good methodology to assess herbicide management and efficacy
✓ Biochar amendment increased rice growth compared to conventional fertilizer
✓ Half commercial doses seems to show good weed control though further studies are needed