



## Practice Abstract N° 21

## Weed management in rice in a conventional system, Spain

## INTRODUCTION

Rice (cultivar 'Thaiparla') was the main crop investigated. The cover crops planted in the fall on the main plots were: *Avena sativa* (seeding rate 173 kg ha<sup>-1</sup>), *Medicago scutellata* (seeding rate 30 kg ha<sup>-1</sup>) and *Hordeum vulgare* (seeding rate 106 kg ha<sup>-1</sup>). An untreated control, i.e. plots with spontaneous weed flora and without any cover crop, was also included. After termination of the cover crops by mowing at the end of April, the residues of the cover crop were incorporated into the soil. Four weed management practices were assigned to the subplots: weedy check (untreated control), herbicide treatment with the recommended application rate, herbicide treatment with reduced application rate and mechanical weed control.

## MAIN RESULTS – OUTCOMES

- 1 *Hordeum vulgare* and *Avena sativa* produced the highest biomass before termination (7,000–7,500 kg ha<sup>-1</sup>), whereas *Medicago scutellata* had lower biomass (6,586.9 kg ha<sup>-1</sup>) but achieved significantly higher ground cover and weed suppression (27%)
- 2 The combination of *H. vulgare* with herbicide application at the reduced rate led to the highest rice crop biomass (11,160.0 kg ha<sup>-1</sup>)
- 3 The interaction *H. vulgare* × herbicide application with the reduced application rate resulted in a 78% lower density of Cyperaceae weeds compared to no cover crop × untreated control (23 weeds m<sup>-2</sup>)



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## PRACTICAL RECOMMENDATIONS

- 1 *H. vulgare* and *A. sativa* produced the highest biomass, but *M. scutellata* provided superior ground cover and weed suppression. Combining these traits could enhance weed control
- 2 The best weed suppression and rice biomass were achieved with *H. vulgare* combined with herbicide at reduced rates. This approach could optimize both weed control and herbicide reduction


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