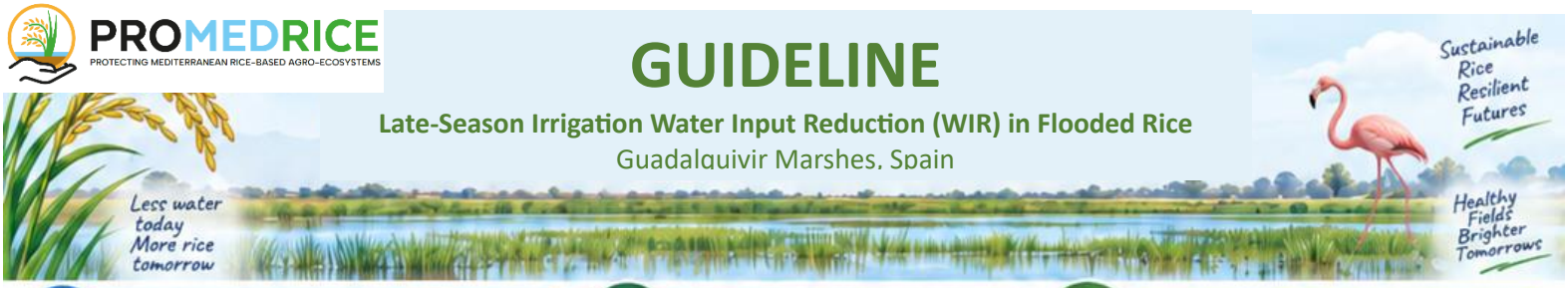
PROMEDRICE
PROTECTING MEDITERRANEAN RICE-BASED AGRO-ECOSYSTEMS

GUIDELINE

Late-Season Irrigation Water Input Reduction (WIR) in Flooded Rice

Guadalquivir Marshes, Spain



What is WIR?

WIR is a late-season **irrigation** strategy that applies an additional reduction in field inflow once the crop has passed the most sensitive reproductive stages and reached the dough grain stage.

- **Late-season only**
- **Keep the field flooded**
- **Reduce → Observe → Adjust**

Why use WIR?

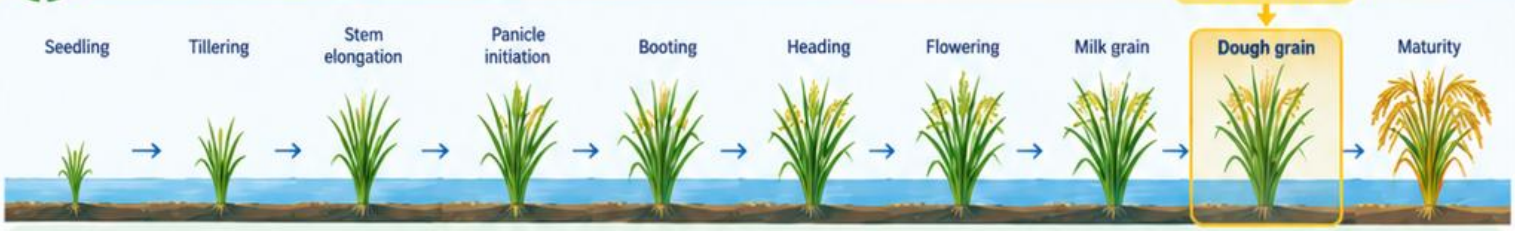
- Improves late-season water-use efficiency
- Helps reserve more available water for vegetative and reproductive phases
- Supports water management under limited availability
- Allows gradual adjustment while monitoring salinity risk

Water allocation context

In the Guadalquivir Marshes, especially on the right bank and downstream areas, salinity is a major constraint. Water should be prioritised during vegetative and reproductive phases. WIR helps reduce inputs later, when crop sensitivity is lower.

Plan WIR in coordination with the Water Users Association.

When can WIR be considered?



Use crop phenology, not calendar days.

How to identify the stage:

- **Milk stage:** grain releases milky liquid → too early
- **Soft dough:** grain contents are soft and pasty → **preferred stage**
- **Hard dough:** kernel is firmer but WIR may still be applied if conditions are suitable

5 practical steps

1. **Confirm crop stage**
   Consider WIR from dough grain stage onwards.
2. **Check field and water conditions**
   Uniform flooding, no exposed soil, inlet/outlet adjustable, salinity under control, suitable weather.
3. **Apply the additional inflow reduction**
   Reduce gradually. Do not stop irrigation. Adjust outlet if needed.
4. **Check the field response**
   Watch water coverage, crop condition, EC, water level and weather.
5. **Maintain, reduce further or reverse**
   Stable conditions → maintain.
   Drying, stress or rising EC → correct promptly.

Key cautions

- WIR is not an **early irrigation cut-off**
- Do not use a fixed reduction percentage
- Do not start before the crop reaches the appropriate stage
- Monitor closely and adapt to field conditions



Take-home message

Reduce only when crop and field conditions allow it.
Maintain flooding, control salinity, and adjust irrigation according to field response.

REDUCE → OBSERVE → ADJUST

Resilient Rice Systems for People and Nature