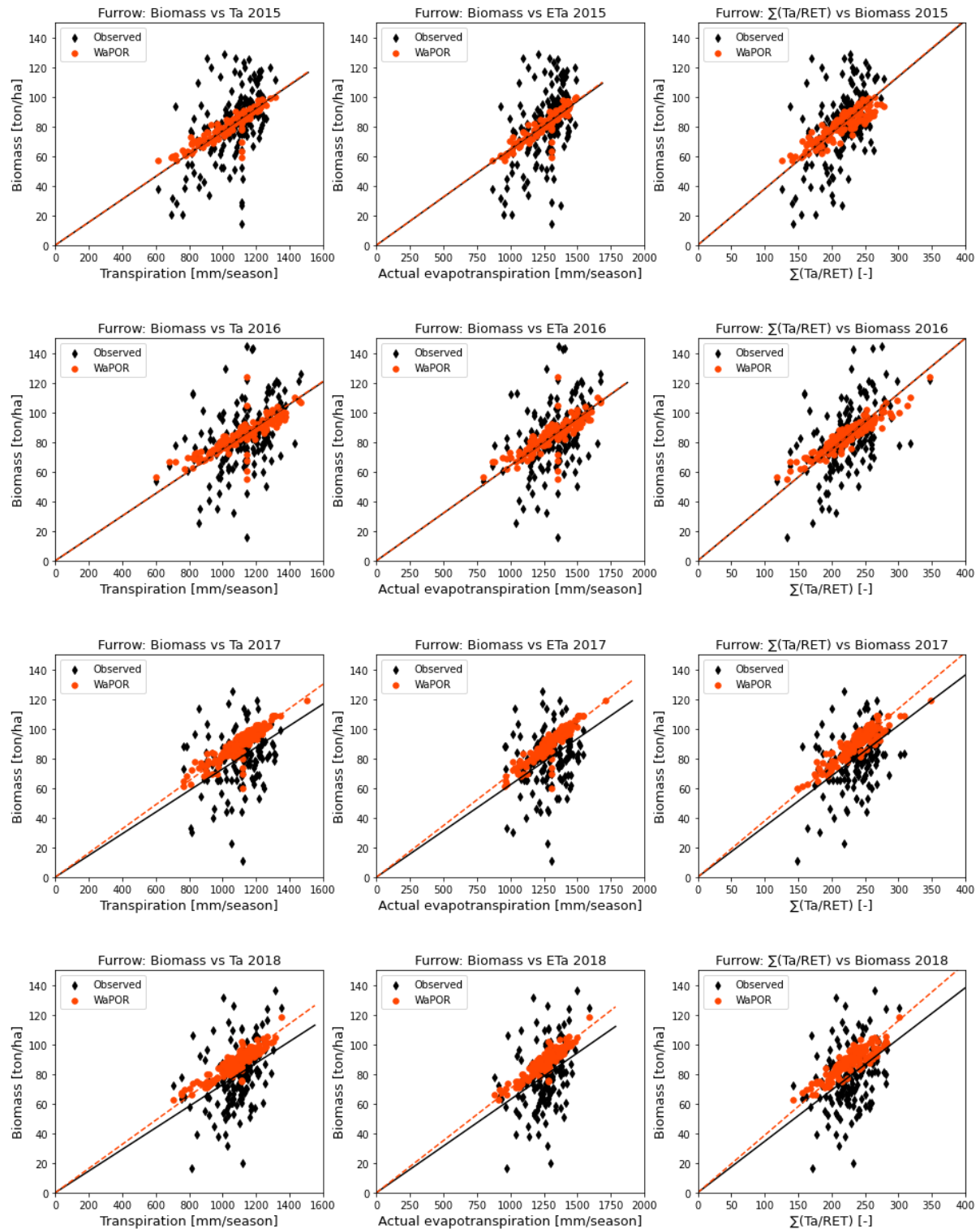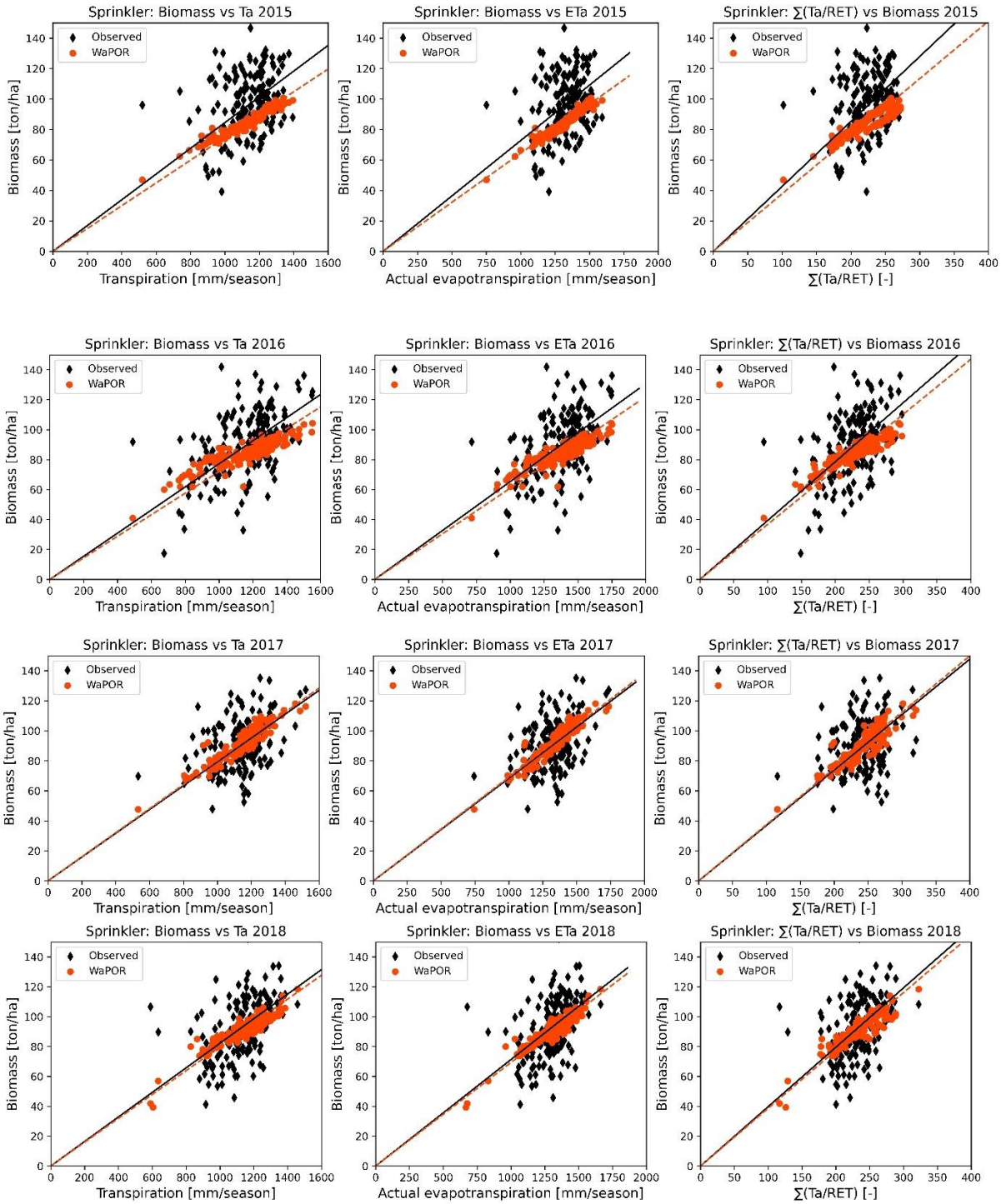# Supplementary Material

Figure S1. The relationship between biomass and transpiration, biomass and evapotranspiration and biomass and normalized transpiration of furrow, sprinkler and centre pivot irrigated fields at Xinavane in 2015-2018.

Sprinkler: Biomass vs Ta 2015 — Sprinkler: Biomass vs ETa 2015 — Sprinkler: ∑(Ta/RET) vs Biomass 2015

Sprinkler: Biomass vs Ta 2016 — Sprinkler: Biomass vs ETa 2016 — Sprinkler: ∑(Ta/RET) vs Biomass 2016

Sprinkler: Biomass vs Ta 2017 — Sprinkler: Biomass vs ETa 2017 — Sprinkler: ∑(Ta/RET) vs Biomass 2017

Sprinkler: Biomass vs Ta 2018 — Sprinkler: Biomass vs ETa 2018 — Sprinkler: ∑(Ta/RET) vs Biomass 2018

Centre pivot: Biomass vs Ta 2015 — Centre pivot: Biomass vs ETa 2015 — Centre pivot: ∑(Ta/RET) vs Biomass 2015

Centre pivot: Biomass vs Ta 2016 — Centre pivot: Biomass vs ETa 2016 — Centre pivot: ∑(Ta/RET) vs Biomass 2016

Centre pivot: Biomass vs Ta 2017 — Centre pivot: Biomass vs ETa 2017 — Centre pivot: ∑(Ta/RET) vs Biomass 2017

Centre pivot: Biomass vs Ta 2018 — Centre pivot: Biomass vs ETa 2018 — Centre pivot: ∑(Ta/RET) vs Biomass 2018
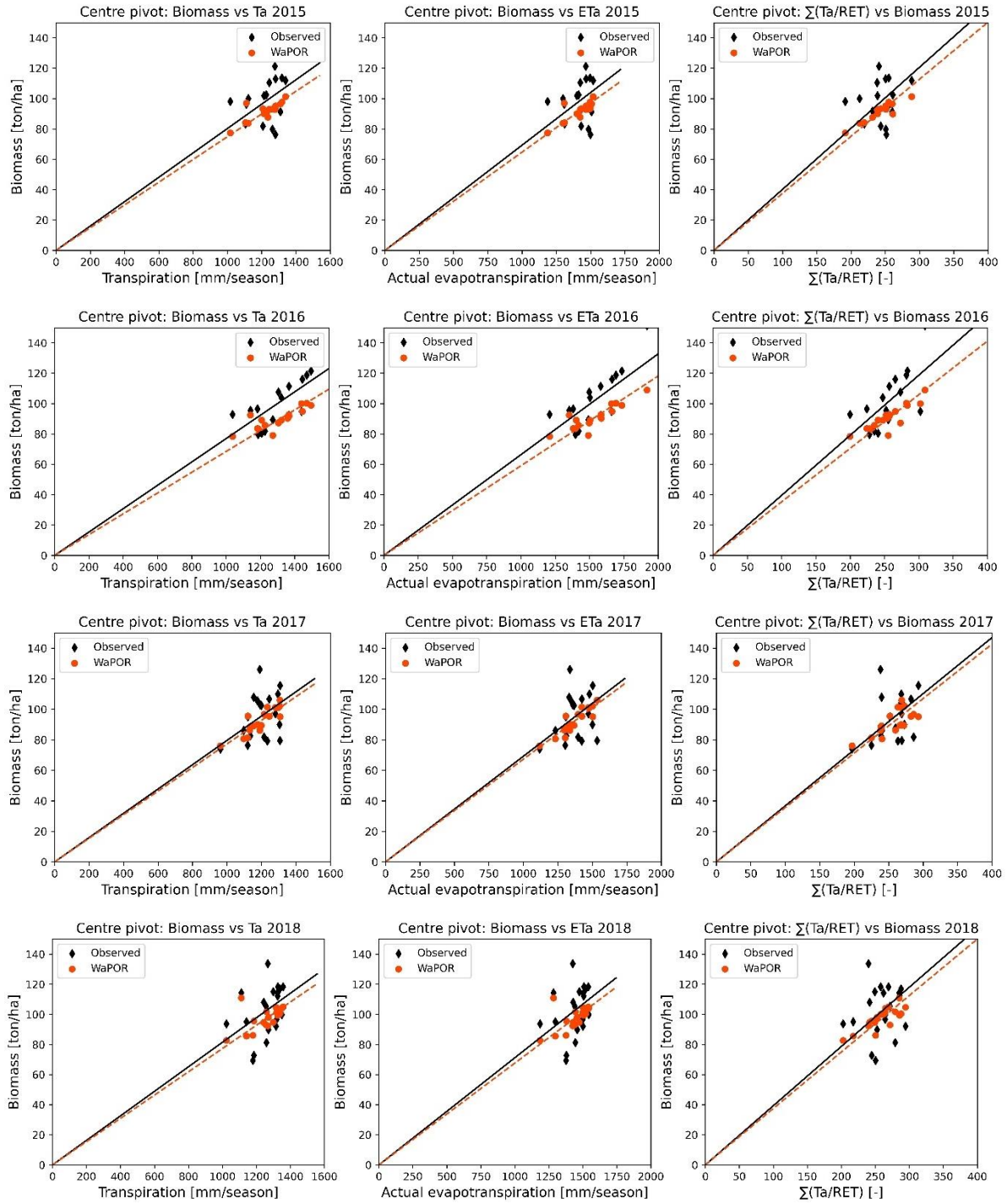
Table S1. *The statistical parameters of the relationship between biomass and water consumption of furrow, sprinkler and centre pivot irrigated fields from 2015 to 2018.*

Furrow irrigated fields

Line	Regression parameters	2015 (n=175)	2016 (n=153)	2017 (n=152)	2018 (n=149)
B vs. T_a	Slope of the regression line	0.077	0.076	0.081	0.081
	intercept	0.0	0.0	0.0	0.0
	r^2	0.828	0.617	0.79	0.802
B vs. ET_a	Slope of the regression line	0.065	0.064	0.069	0.07
	Intercept	0.0	0.0	0.0	0.0
	r^2	*0.856*	*0.641*	*0.815*	*0.833*
B vs. $\sum T/ET_{ref}$	Slope of the regression line	0.0.38	0.376	0.379	0.387
	Intercept	0.0	0.0	0.0	0.0
	r^2	0.739	0.78	0.806	0.711

Sprinkler irrigated fields

Line	Regression parameters	2015 (n=160)	2016 (n=180)	2017 (n=161)	2018 (n=149)
B vs. T_a	Slope of the regression line	0.075	0.072	0.08	0.08
	intercept	0.0	0.0	0.0	0.0
	r^2	0.87	0.427	0.86	0.813
B vs. ET_a	Slope of the regression line	0.064	0.061	0.069	0.069
	Intercept	0.0	0.0	0.0	0.0
	r^2	*0.939*	*0.651*	*0.884*	*0.87*
B vs. $\sum T/ET_{ref}$	Slope of the regression line	0.0.378	0.376	0.375	0.387
	Intercept	0.0	0.0	0.0	0.0
	r^2	0.737	0.658	0.808	0.772

Centre pivot irrigated fields

Line	Regression parameters	2015 (n=16)	2016 (n=17)	2017 (n=19)	2018 (n=19)
B vs. T_a	Slope of the regression line	0.075	0.068	0.077	0.077
	intercept	0.0	0.0	0.0	0.0
	r^2	0.538	0.558	0.757	0.123
B vs. ET_a	Slope of the regression line	0.065	0.059	0.067	0.068
	Intercept	0.0	0.0	0.0	0.0
	r^2	***0.606***	***0.608***	***0.817***	***0.2***
B vs. $\sum T/ET_{ref}$	Slope of the regression line	0.376	0.353	0.357	0.375
	Intercept	0.0	0.0	0.0	0.0
	r^2	0.643	0.621	0.444	0.486