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Select Theme	: Sustainable and equitable farming systems
Endorsement email	:
Keyword 1	: Yield gaps
Keyword 2	: Sustainable intensification
Keyword 3	: Sustainable management practices
Title of Entry	: YIELD GAP IN FLOODED RICE IN BRAZIL
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Select only one type of presentation	: 15 minute oral presentation
Abstract	: Brazil is the ninth world rice producer. In five years average (2010-2014) Brazil produced over 12 million tons of the grain. The Rio Grande do Sul state is responsible for 70% of the Brazilian production, cultivated in 1,1 million hectares. The Yield Gap Analysis is one of the main areas where developing countries as Brazil, can invest to identify the management practices that can increase the country average yield and expand their food security. The objective of this study was to determinate the yield gap and the main management practices that cause yield gap in Brazilian flooded rice. The study was conducted in the lowland areas of

the Rio Grande do Sul state, traditionally cultivated with flooded rice. In the 2015/2016 growing season, 155 flooded rice farms, representing Brazilian farms, were accompanied and applied questionnaires to identify main management practices. The yield potential (YP), was estimated with three methods: (a) using crop models (SimulArroz), (b) field experiments and (c) best farmers yield. The yield potential simulated by the SimulArroz model (YP(a)) was 14.0 Mg ha-1, the field experiments yield (YP(b)) was 10.9 Mg ha-1, and the best farmers yield (YP(b)) was 10.0 Mg ha-1. The similarity between the experiments yield and the farmers yield indicates that the management used by these farmers is very appropriate. The state average yield in 2015/2016 was 6.9 Mg ha-1 and the flooded rice yield gap in Brazil ranged from 3.1 to 7.1 Mg ha-1. The yield gap of 3.1 Mg ha-1 is considering the farmers maximum yield (10.0 Mg ha-1). This yield gap can be reduced by minimum investment and by adjusting some management practices. Analyzing the relation between yield and sowing date, farmers with high technological level are those who sowed their fields during the recommended season (September – October), and thus obtained the highest yields. An average decrease in yield of 27 kg ha-1 for each day of sowing date delay was obtained. Farmers can improve management practices to increase the Brazilian flooded rice average yield and, therefore, decrease the yield gap, such as anticipating sowing date.

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