



International Conference

FROM SEED TO PASTA III

A SUSTAINABLE DURUM WHEAT CHAIN
FOR FOOD SECURITY AND HEALTHY LIVES



Bologna - Italy, 19-21 September 2018

P.3.23

FIRST DURUM WHEAT CULTIVAR FOR DRY LAND AREAS IN CHILE?

Christian Alfaro¹, Iván Matus ², Karim Ammar⁴, Dalma Castillo²Ricardo Madariaga²,
Claudio Jobet³

- 1.-Instituto de Investigaciones Agropecuarias, Centro Regional de Investigaciones Rayentue, Casilla 13, Rengo, Chile.*
- 2.-Instituto de Investigaciones Agropecuarias, Centro Regional de Investigaciones Quilamapu, Casilla 426, Chillán, Chile.*
- 3.- Instituto de Investigaciones Agropecuarias, Centro Regional de Investigaciones Carillanca, Casilla 58-D, Temuco, Chile.*
- 4. Centro International de mejoramiento de Maíz y Trigo (CIMMYT) Global Wheat Program, México.*

In Chile, the wheat area reached 240,000 ha, about 10% of production is durum wheat associated in irrigated situation opposite to the rest of the world where the great proportion is of dry land conditions, where the Mediterranean climate prevails with a strong water stress and high temperatures during the grain filling. Coastal dryland is defined as the agroclimatic zone located on the western slope of the Coastal Range between the Coquimbo (29°53' S) and Los Lagos Regions (40° 35' S). Rainfall occurs mainly between April and September.

Investigates during the years 2015-2017, the effect of high temperatures in two sites of Mediterranean area: Hidango (Dry land) (36° 06' 48''S; 71° 47' 52'' West; 269 m.a.l.s) and Santa Rosa (Irrigated) (36° 31'34 "S, 71 ° 54'40")., in both sites the temperature during grain filling exceeds 32°C. We evaluated in both sites twenty five durum wheat varieties included Llaretta-INIA, Lleuque-INIA, Queule-INIA and Waha. Traits evaluated include: Yield (t ha⁻¹), hectoliter weight (kg hL⁻¹), protein content (%), plant height (cm), (%), sedimentation value (cc) and diseases resistance to rust days phenology, color b, grain vitreousness, grain black point, susceptibility and resistance to leaf rust (*P.triticina*), yellow rust (*P.striiformis*) and stem rust (*P. graminis*), powdery mildew (*B. graminis*), and BYDV. The best performance is CIMMYT line: SORA/2*PLATA_12/3/SORA/2*PLATA_12//SOMAT_3/4/AJAIA_13/YAZI//DIPPER_2/BUSHE N_3, selected in 2009 in Obregon, México and evaluate in Chile in contrast environment previously described.