

2. Trials for economic evaluation of hybrids of inbred lines with high refractometrical readings in the stalk juice.

Four trials, including 239 hybrids, were performed in 1954. Included in the trials were 11 hybrids sent by Dr. D. F. Jones. The rest were from American inbreds and our own inbreds selected for high refractometer readings in 1951 and 1952.

For each hybrid data were taken for yields of grain, stalks, leaves, juice of the stalks, and alcohol (obtained by stalk juice fermentation and distillation).

Under good cultivation some hybrids had all the leaves quite green when the ear was mature (with 25-31% moisture in the grain), and the refractometer reading, of such hybrids was from 10 to 13%.

The highest grain yield (13.700 kgs./Ha; 15.5% moisture) was obtained with one hybrid of 115 days maturity period (American scale). It harvested at 31% grain moisture and gave, at same time, 17 tons/Ha. of green leaves and 33 T./Ha. of stalks with 72% of juice, which had 10% refractometer readings. From the fermented juice was obtained 960 lbs./Ha. of 100% alcohol.

With eight tons of green plants, from which mature ears were harvested was made silage which was very much appreciated by the oxen.

Considering in the evaluation stalks for production of a cheap alcohol for motors and leaves for silage, those hybrids with green leaves after the ear was matured represented at Pontevedra a value 32% to 45% over grain of the hybrids in the same trials that did not have green leaves when the ears were matured.

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Mariano Blanco - Mision Biologica de Galicia, Pontevedra, Spain
A. S. Veiginha - Estacao Agronomica Nacional, Sacavem, Portugal
Jose L. Blanco - Mision Biologica de Galicia, Pontevedra, Spain