

This issue of **Passiflora On Line** features results of passion fruit research in Brazil.

Research

New yellow passion fruit hybrids

Originated from a program developed at the Instituto Agronômico Campinas (São Paulo state, Brazil), by Dr. Laura Maria Molina Meletti (lmmm@iac.sp.gov.br), the hybrids, IAC 275 and IAC 277, were noted by their superiority in terms of yield and fruit quality. When plantlets are grown correctly, cultural practices are adequate and manual pollination is carried out during flowering peaks, yield is twice or three times superior to the Brazilian average (Table 1). Yield can be attributed to intense flowering developed by these hybrids, almost one flower per knot (Figure 1).

According to adopted spacing, yield can be altered. Data shown are referred to spacing of 5m between plants and 3m between lines, therefore, 15 m² per plant. According to Dr. Meletti, these materials were not selected for disease resistance, showing susceptibility as similar as the national average. The incorporation of higher levels of resistance will occur at a more advanced level of this breeding program.



Figure 1. Yellow passion fruit in production.
IAC 277. Laura Meletti - IAC.

Table 1. Development of IAC hybrids compared to Brazilian average. Data for 1996-1997 season, Monte Alegre do Sul-SP.

Hybrids	Yield t/ha/year	Fruit weight (g)	H x W ¹ of Fruits (cm)	Soluble Solids	% of Pulp	Seeds per Fruit	Pulp Color
IAC 275	47,7	170	8,2 x 7,0	15,8	55	340	Intense Orange
IAC 277	48,5	218	9,1 x 7,8	15,0	48	410	Orange
Nacional	15 a 25	150	7,8 x 6,0	13,0	40	235	Yellow-
Average							Orange

1. Height x Width

The IAC 275 hybrid is specially developed for industrial processing as juice (Figure 2). Its pulp is more intense in color and flavor, which makes its juice more attractive and aromatic. The fruits are oval with cavity totally filled and thinner peel, therefore increasing pulp percentage. This hybrid also has greater soluble solids content (Table 1), which converts in greater industrial yield.



Figure 2. Hybrid IAC 275 fruit. Laura Meletti - IAC.

The IAC 277 hybrid, has characteristics that make it more acceptable to the fresh fruit market (Table 1). Its fruits are bigger and heavier (Figure 3), surpassing the 9 cm in length and 200 g in weight. It has orange pulp, a more intense color than the national average and the soluble solids content reaches 15 Brix. Its fruits also present less variability in the field, making it easier to classify.



Figure 3. IAC 277 hybrid fruit.
Laura Meletti - IAC.

These hybrids belong to a partnership between IAC and *Embrapa Science & Technology Business*, from which the development, production, diffusion and commercialization of the IAC 275 and IAC 277 passion-fruit hybrids program resulted from. The objective of this work is to produce seeds of higher genetic quality, with warranty of origin available to producers in order to improve the quality of the resulting plants. Consequently, it aims to broaden orchard yield of those who start using this technology.

Links

Toda Fruta: <http://www.todafruta.com.br>

Plant Genetic Resources in the Americas:

<http://www.ipgri.cgiar.org/regions/americas/programmes/passiflora.htm>

Associação dos Fruticultores da Região de Vera Cruz: <http://www.afruvec.com.br>

Passiflora Society International: <http://www.passiflora.org>

Coleção Mauro Peixoto: <http://www.brazilplants.com>

Passiflora! by Maurizio Vecchia: <http://www.passiflora.it>

Nationale Collectie Passiflora: <http://www.passiebloem.nl>

Rain Tree Nutrition: <http://www.rain-tree.com/passionf.htm>

Caribbean Agricultural Information Service:

http://www.caisnet.org/bibliographies/fruit/passion_fruit.htm

The Beautiful World of Passiflora: <http://www.passiflora-uk.co.uk>

Ecology, systematics, and evolution of passionvines:

<http://uts.cc.utexas.edu/~gilbert/research/passionvines/index.html>

Passion Fruit Facts: <http://www.crfp.org/pubs/ff/passionfruit.html>

Maracujá a Flor da Paixão: <http://www.maracuja.com.br>

Direct Seed Co.: <http://members.aol.com/pasiflora1/>

B&T World Seeds: <http://www.b-and-t-world-seeds.com>

Quicornac: <http://www.passionfruitjuice.com>

Barbadine Tropical Seeds: <http://www.barbadine.com>
