Okinawa Prefectural Agricultural Research Center



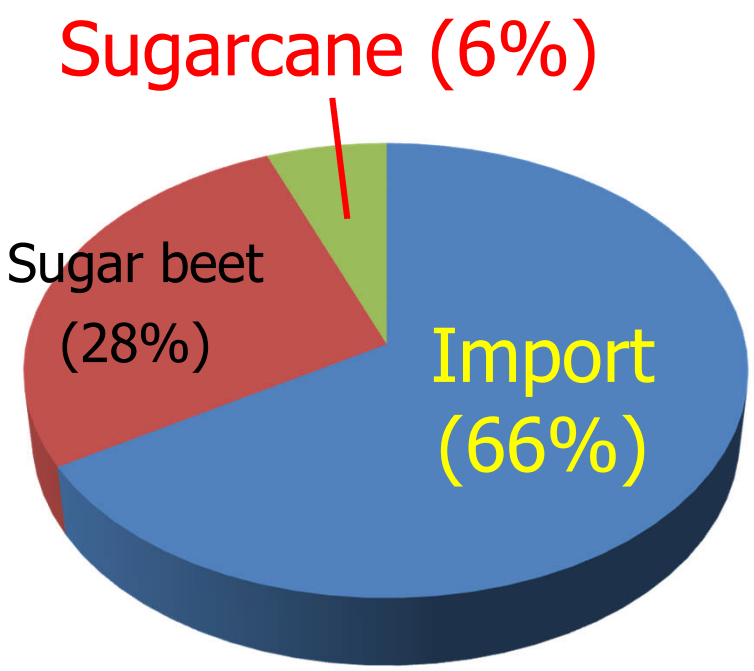
Utilization of Saccharum and wild relatives to promote the sugarcane breeding in Japan

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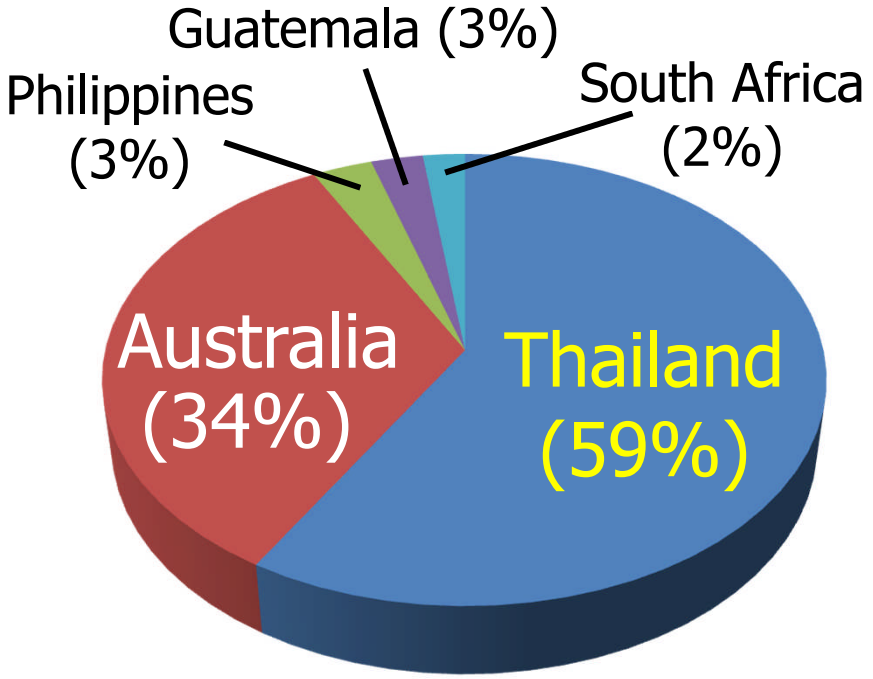
Sugar production in Japan (2012)

Sugar self-sufficiency rate



Consumption : 2,026,000 t/Year

Sugar importing country



Total : 1,338,000 t/Year

- Sugarcane has produced 6% sugar of domestic consumption.
- The most import are from Thailand.

Sugarcane production area and sugar mills



From N 24°
to N 31°

Nansei Islands (Southwest islands)

Kagoshima Pref.

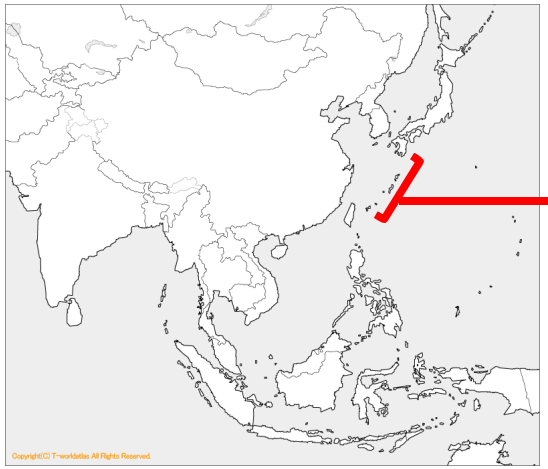
Okinawa Pref.

Shinko
Fukoku
Showa
Nansei
Nanei
Yoron
Iheya
Izena
Kyuyo
Kumejima
Kitadaito
Aguni
Daito
Shonan
Ie
Ishigaki
Miyako
Kohama
Yonaguni
Iriomote
Hateruma
Tarama
Okinawa

17 : Raw sugar factory (450t ~2000 t/day)

8 : Brown sugar factory

Importance of sugarcane in Japan



Nansei Islands (Southwest islands)

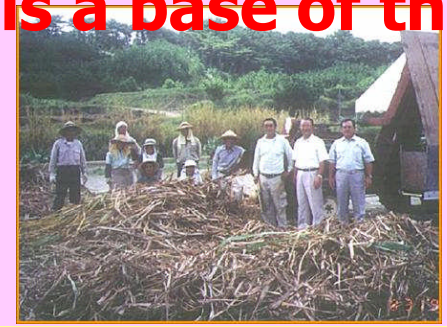
- Harvested area : 23000 ha
- Sugarcane production : 1.3 Mt/Y
- Raw sugar production : 0.15 Mt/Y
- Cane Pol. : 14.2%

Sugarcane is not only for sugar-supply.

In each Island,

Sugarcane is a base of the sustainable local society.





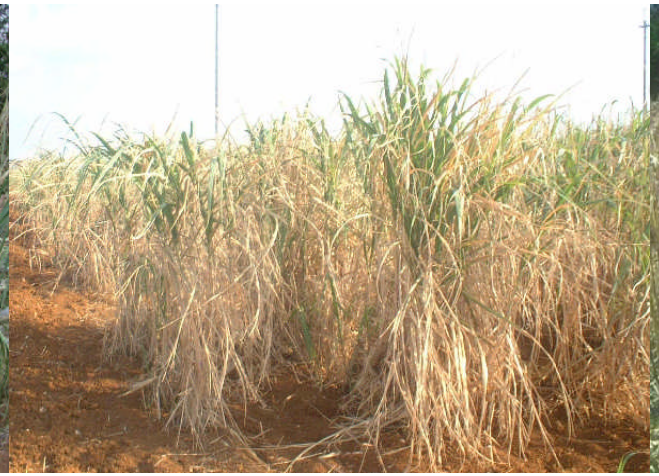


Sugarcane is good biomass resource, we want to use their potential/productivity, more.

Severe natural environment to produce sugarcane, and unstable sugarcane products



Typhoon



Drought



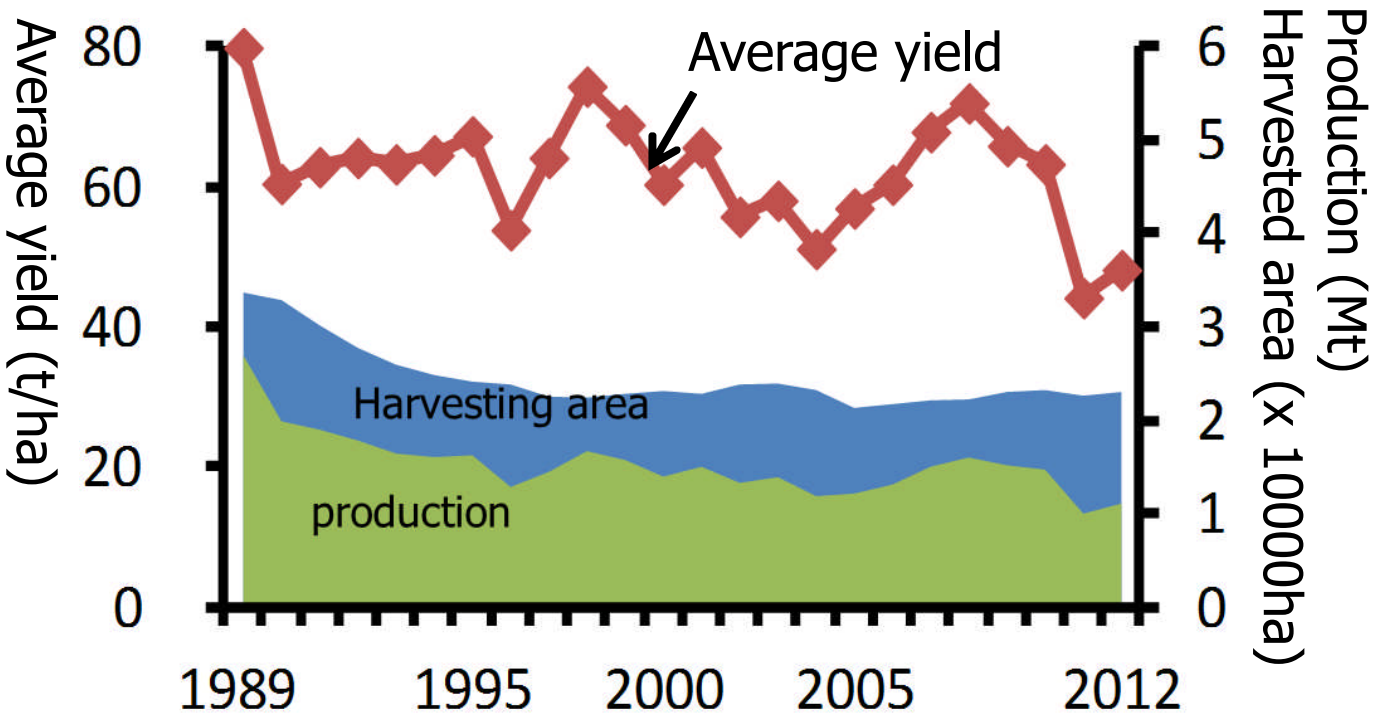
Frost





Poor and shallow soil

Unstable yield and production influenced by adverse conditions



- Average yield is low (50–60t/ha) and unstable.
- Harvested area and production has continued to decrease.

We have to improve this situation.

To produce the sustainable farming and society through the sugarcane breeding,

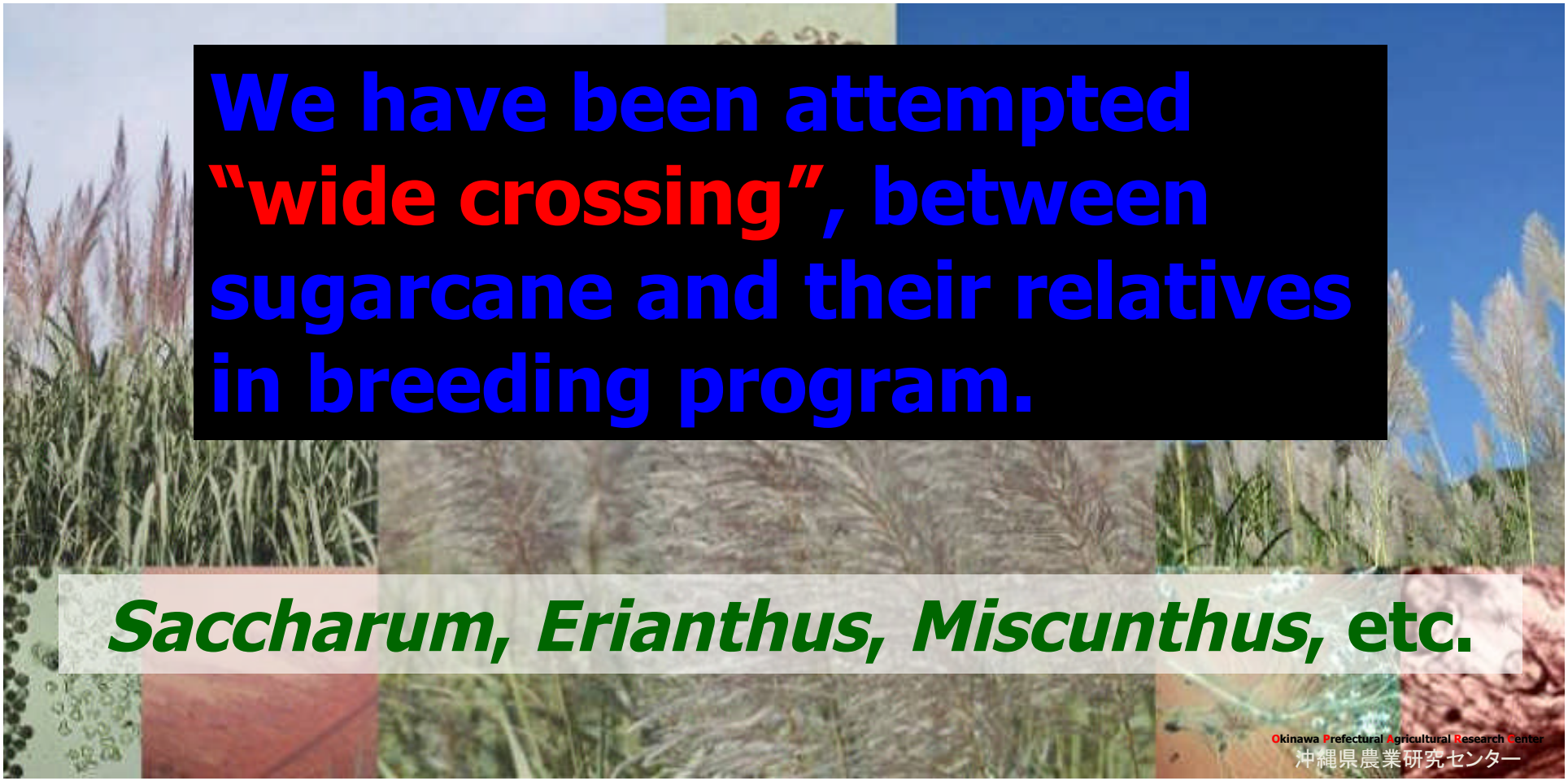
To brake the breeding paradigms,

- **High Yield**
- **Good ratooning ability**
- **Adaptability to adverse condition**
- **Early harvesting**
- **Smut resistance**

More drastic improvement is necessary for us.

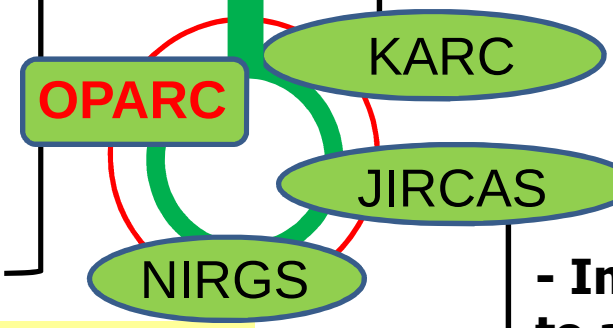
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沖縄県農業研究センター

To improve more drastic,



I. Collaboration to promote accomplishing objectives (2012-2017)

For the current, near future and future



Kyushu Okinawa Agricultural Research Center

- Improvement of growth at low temperature and ratooning ability derived from interspecific hybrids,
- High yielding genotypes for cogeneration or by-products,

Okinawa Prefectural Agricultural Research Center

- Development of crossing technique to use wide materials,
- New breeding materials and advanced utility accumulation,

Japan International Research Center for Agricultural Sciences

- Improvement of adaptability to adverse conditions, such as root system,
- Evaluation of new genotype (interspecific/intergeneric) and feedback to breeding process,
- Behavior of chromosome/chromosome-brock,

Institute of Livestock and Grassland Science

- Basic technique for acceleration of breeding,
- *Eerianthus*-genome, Marker in *Sachurum*-complex,

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These all are on the way.

We will improve our breeding more creative, to achieve the previous objectives.



Thank You !