



Recommended Yellow Corn Hybrids, OPV's and Glutinous Corn Varieties

Corn (*Zea mays* Linn.) belongs to the cereal crop which is mainly grown for food and feed. It is usually a substitute for rice in time of rice shortage. About 27% of the Filipino use "rice corn" as their staple food. Corn has a lot of uses; the plant, the grain, and corn by-product. Corn is used as the main ingredient in the manufacture of poultry and livestock feeds. Thus, yellow corn grain production must be sustained to support the needs of the feed millers and the glutinous corn production to support the raw materials of the cornick processors.

With this situation, government agencies and private seed companies are continuously developing high yielding hybrids and open pollinated (OPV's) that are resistant to insect pests and diseases.

Through research conducted by the National Cooperative Trials in which MMSU, is a cooperating agency, newly developed corn hybrids and open pollinated varieties (OPV's) were evaluated nationwide. Eight varieties were found promising and were recommended (3 as National variety, 2 for Luzon and Visayas, one for Luzon and Mindanao and 2 for Luzon only) for commercial release to the National Seed Industry Council.

Objectives

1. To evaluate the performance of hybrids and open pollinated varieties (OPV's) of corn for yield and other agronomic characteristics.
2. To recommend to the National Seed Industry Council, hybrids and open pollinated varieties of corn for National and Regional releases.

Methodology

Type of Soil

Wet Season : San Manuel Soil Series

Characteristics : Newly level river terraces, well-drained, moderate to high fertility and slight to moderate flooding

Dry Season : San Fernando Soil Series

Characteristics : Broad alluvial plain, poor to very poorly drained, moderate to very high fertility and cracks

Fertilizer Rates : 120-60-60 NPK per ha⁻¹

Plot Size : 3 m x 5 m

Distance of Planting : 75 cm x 20 cm

Cultural Management : POT for Corn

Research Design : RCBD with four replications

Recommended Cultural Management

Planting Schedule

Wet season - May to June
Dry season - October to November

Planting Distance

75 cm between rows
20 cm between hills

Seeding Rate

2 seeds per hill thinned to 1 plant per hill
15 days after emergence

Weeding

Hand weeding at 15 days after planting (DAP)

Hilling-up

Animal drawn plow at 25 DAP

Fertilizer Rate (per hectare)

Basal - 8.5 bags 14-14-14
Sidedress - 2.6 bags urea before hilling up

Harvesting

Green corn - 70 to 72 DAP
Grain corn - 90 to 105 DAP

Research Highlights

New Varieties of Corn Recommended for Commercial Release

AS NATIONAL VARIETY



USMARC TC 107

Silking days (DAP) : 51.50
Plant height (cm) : 193.23
Ear height (cm) : 99.30
Ear length (cm) : 16.82
Shelling Recovery (%) : 78.78
Grain yield (tha⁻¹) : 7.78 (Batac)
7.40 (National)

FOR LUZON AND VISAYAS



PAC 1290022

Silking days (DAP) : 49.00
Plant height (cm) : 222.00
Ear height (cm) : 117.00
Ear length (cm) : 19.00
Shelling Recovery (%) : 80.75
Grain yield (tha⁻¹) : 10.04 (Batac)
8.21 (National)

H 102 G

Silking days (DAP) : 51.50
Plant height (cm) : 203.61
Ear height (cm) : 102.48
Ear length (cm) : 17.32
Shelling Recovery (%) : 80.25
Grain yield (tha⁻¹) : 9.89 (Batac)
10.44 (National)



USMARC DA 308 D

Silking days (DAP) : 48.00
Plant height (cm) : 228.00
Ear height (cm) : 121.00
Ear length (cm) : 16.00
Shelling Recovery (%) : 78.57
Grain yield (tha⁻¹) : 6.31 (Batac)
6.08 (National)

FOR LUZON AND MINDANAO



SS 6423 BtGt

Silking days (DAP) : 48.00
Plant height (cm) : 237.00
Ear height (cm) : 108.00
Ear length (cm) : 17.00
Shelling Recovery (%) : 80.30
Grain yield (tha⁻¹) : 9.28 (Batac)
9.72 (National)



USMARC DA 306 D

Silking days (DAP) : 49.00
Plant height (cm) : 220.00
Ear height (cm) : 114.00
Ear length (cm) : 16.00
Shelling Recovery (%) : 76.25
Grain yield (tha⁻¹) : 5.99 (Batac)
6.02 (National)

FOR LUZON



USMARC DA 204 N

Silking days (DAP) : 48.00
Plant height (cm) : 235.00
Ear height (cm) : 112.00
Ear length (cm) : 17.00
Shelling Recovery (%) : 78.06
Grain yield (tha⁻¹) : 6.44 (Batac)
5.58 (National)

USMARC TC 109

Silking days (DAP) : 51.00
Plant height (cm) : 201.19
Ear height (cm) : 103.41
Ear length (cm) : 16.82
Shelling Recovery (%) : 77.96
Grain yield (tha⁻¹) : 7.35 (Batac)
6.58 (National)

Conclusion

- ♦ Three open pollinated varieties (OPV's) were recommended for commercial release - National (RCN-N):
 1. USMARC TC 107 with NSIC Reg # Cn 2015-296
 2. USMARC DA 308D with NSIC Reg # NSIC Cn 2014-288
 3. USMARC DA 306D with NSIC Reg # NSIC Cn 2014-288
- ♦ Two OPV's were also recommended for commercial release - Luzon:
 1. USMARC TC 109 with NSIC Reg # NSIC Cn 2015-300
 2. USMARC DA 204N
- ♦ Three yellow corn hybrids were recommended for commercial release:
 1. PAC 1290022 with NSIC Reg # NSIC Cn 2015-295 (RCR-Luzon-Visayas)
 2. SS 6423 BtGt with NSIC GM Cn 2015-35 (RCR-Luzon-Mindanao)
 3. H 102 G (RCR-Luzon Visayas)
- ♦ Can be grown during wet and dry season cropping
- ♦ High yield potential, excellent ear fill characteristics, good shelling recovery and resistant to pest and foliar diseases