

## PERFORMANCE OF QUALITY PROTEIN MAIZE LINES IN MEGHALAYA

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Maize (*Zea mays* L.) is one of the most important cereals of the world. In India maize occupies fifth place in acreage and fourth place in production among the cereals grown. Maize is the second most important crop in north eastern hill region covering an area of more than 137 thousand hectare with an average productivity of 1200 kg/ha (Mahajan et al, 1996). Maize is native to Americas with two locations as possible origin of maize - i) the highlands of Peru, Equador and Bolivia and ii) the region of sothern Mexico and Central America where many races of maize occur (Weatherwax and Randolph, 1955). Maize does possess tremendous potential to provide the much-needed nutritional security in backward, hilly and tribal areas and also in terms of feeds for dairy, poultry and piggery agro-industries (Rai, 2002). In addition, there have been diversified uses of maize for starch, corn oil production, babycorns, popcorns and so on. Cultivars with high lysine and tryptophane content are essential to provide nutritional security. Recently, high yielding quality protein maize (QPM) varieties have been released. Nine QPM lines received from the Directorate of Maize Research, New Delhi were assessed for their yield performance at Umiam, Meghalaya during kharif (rainy season) 2000 and 2001. The trial was conducted in randomized block design with three replications. Normal package of practices was followed. Crude protein and dry matter content were analyzed following standard procedures.

DMR 3008 resulted highest kernel yield (18.7 q/ha) closely followed by DMR 3007 (18.1 q/ha) and DMR 3009 (18.0 q/ha). Maximum plant height was attained by DMR 3009 (255 cm) followed by DMR 3001 (247 cm). The lines matured between 95 (DMR 3003) to 99 (DMR 3004) days. DMR 3001, 4, 6 and 9 were earliest to 50% tasselling (59 days) and DMR 3001 to 50% silking ( 63 days). DMR 3001, 3 and 7 exhibited more crude protein content than other lines (10.23%, 10.22% and 10.10% respectively). Dry matter content ranged from 97.6% to 99.1% with highest in DMR 3001 and lowest in DMR 3002 and 3.

It may be concluded from this preliminary evaluation that DMR 3007, 8 and 9 having good yield and reasonably good protein content may be identified as potential lines for cultivation of QPM in tribal and hilly region of Meghalaya for nutritional security of the people.

### REFERENCES

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**Table 1. Yield and yield contributing attributes of quality protein maize lines (mean of 2 years)**

Line	Plant height (cm)	Days to 50% tasseling	Days to 50% silking	Days to maturity	Kernel yield (q/ha)	Dry matter (%)	Crude protein (%)
DMR 3001	247.7	59	63	97	14.2	99.1	10.23
DMR 3002	216.1	63	69	98	13.7	97.6	9.78
DMR 3003	222.1	61	65	95	15.0	97.6	10.22
DMR 3004	222.5	59	66	99	10.9	97.7	9.59
DMR 3005	227.9	60	67	98	14.7	98.3	9.36
DMR 3006	223.1	59	65	97	17.5	97.8	9.39
DMR 3007	227.0	63	68	96	18.1	97.9	10.10
DMR 3008	205.8	60	65	98	18.7	98.2	9.51
DMR 3009	255.1	59	71	98	18.0	98.6	9.50
Mean	227.5	60	67	97	15.6	98.1	9.74
Sem ±					3.0		
CD (5%)					6.4		