

# PLANTING DATES FOR MUNGBEAN AT SONGKHLA

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ABSTRACT :- Mungbean variety M 7 A was evaluated in two between-row spacings at Songkhla using six planting dates from June through December. The largest yield was obtained from plants sown on October 1, but heavy rainfall occurring in mid December presented problems for harvesting and pod drying. According to the rainfall pattern, the June and November planting dates were more acceptable. The response of mungbean to between-row spacing was not consistent from date to date, but the narrow between-row spacing outyielded the other at four out of six dates. Two diseases, namely damping-off and *Cercospora* leaf spot, were found to attack mungbean at all dates, but the incidence was more serious in wet months.

## INTRODUCTION

Mungbean [*Vigna radiata* (L.) Wilczek] has been grown in all regions of Thailand. Recent statistics revealed that the total area planted to mungbean was 422,000 hectares which produced about 260,000 tons of seed yield (1). However, the gross area for this crop in the South was only 1.6 % of such acreage.

Mungbean is recognized as a good component crop in many cropping system projects in Thailand (3). It may be planted before or after rice in upland and lowland paddy. It may also be intercropped with cassava which is principally grown in the Northeast. For the South, this crop may be grown before or after rice in lowland or upland paddy, or between rows of young rubber in the rubber replanting program. Sittichareonchai (4) has recommended upon his

analysis of climatic conditions that mungbean should be planted at Songkhla before the heavy peak of rainfall which usually occurs in October through December.

This study was undertaken to collect basic information relating to mungbean production at Songkhla. The result may be applied to other areas close to the province.

#### MATERIALS AND METHODS

The experiment was conducted at Prince of Songkla University, Hat Yai, Songkhla. Climatic and soil conditions at the experimental site were described by Laosuan (2). Six planting dates covering the main part of the rainy season were tested in this study. These planting dates and plant spacings are shown in Table 1. Mungbean variety M 7 A was used in this study.

Prior to planting the plot was limed with 625 kg/ha CaO. Mungbean was planted in four 5-m rows replicated plots. After the crop emerged, fertilizers 93.8 kg N/ha, 40.2 kg P/ha and 75 kg K/ha were drilled in narrow ditches made alongside each row. Mature pods were harvested from two 4.60 - m middle rows. Throughout the experiment there was a minimum application of insecticide and fungicide in order to detect the incidence of insects and diseases.

#### RESULTS AND DISCUSSION

Means for seed yield and other traits are shown in Table 1. The largest yield was obtained from the October 1 planting date, whereas the lowest yield was from the November 1. The variation of yield across planting dates was large, indicating that conditions at each date had pronounced effect on yield of mungbean. Without regard to yielding ability, June and November planting dates were favorable in 1980 as the ripening stage coincided with the period

Table 1. Means for seed yield and some traits of mungbean variety M 7 A grown at different dates and spacings at Songkhla, 1980.

Planting date	Spacing	Yield	Days to flowering	Days to first harvest	Height at first harvest	100 seed wt
	(cm)	kg/ha	(no)	(no)	(cm)	(g)
Jun 17	30 x 5	767	40	70	25	5
	50 x 5	695	42	70	31	6
Jul 22	30 x 5	866	37	66	24	7
	50 x 5	768	37	66	27	6
Aug 28	30 x 5	620	39	64	37	5
	50 x 5	805	38	64	34	5
Oct 1	30 x 5	1,433	35	64	48	6
	50 x 5	1,492	35	64	52	6
Nov 1	30 x 5	340	36	69	34	5
	50 x 5	280	36	69	36	5
Dec 11	30 x 5	1,251	36	64	32	6
	50 x 5	687	36	64	34	7

of low rainfall providing good conditions for harvesting. However, November 1 planting date gave the smallest yield due to the heavy attack by *Cercospora* leaf spot (*Cercospora canescens*) which occurred in mid December before the subsidence of rain. The application of fungicide is necessary at this period due to the suitable conditions for the outbreak of the disease.

The relationship between yield of mungbean for all dates and plant spacings was not quite consistent. However, there was an indication that the 30 cm row-to-row spacing outyielded the 50 cm one.

Diseases were found to attack mungbean at all dates.

Damping-off caused by root infecting pathogens (primarily *Pythium* sp.) damaged 5-10 % of the seedlings at each date. Thus, the uniform stand was almost impossible without replanting. Another serious disease was *Cercospora* leaf spot caused by *Cercospora canescens*. This disease was more serious at certain dates, particularly from August through November, resulting in some loss of yield. Probably, the hot-wet period which occurred during these months might be suitable for disease development. It is doubtful if mungbean could grow healthy in the rainy season without protecting against this disease.

Insects were not quite a problem under the conditions in which the mungbean was grown. Aphid was found at all dates, but the plant was safely protected by spraying insecticides. Bean fly (*Ophiomyia phaseoli*, Tryon), a serious insect pest for mungbean in other regions, was not observed in the experiment.

This study reveals that mungbean research at Songkhla or other nearby provinces is necessary to elucidate many problems before the extension of this crop to farmers. Suitable variety should be identified to fit the local growing conditions. If the crop is to be grown in the rainy season, varieties resistant to certain diseases are required. This study showed at our location that the plant did not grow vigorously. Therefore, 30 - 40 cm spacings between rows and 10 - 20 plants/m within row should be suitable for maximum seed yield. Mungbean could grow well at all dates tried at Songkhla, but artificial drying of the pod harvested is necessary during the rainy months in the wet season to facilitate threshing and retaining good seed quality.

#### REFERENCES

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