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**PROCEEDINGS  
OF THE  
CARIBBEAN FOOD CROPS SOCIETY**



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RED PEA (*PHASEOLUS VULGARIS* L.) VARIETY TRIALS  
IN JAMAICA

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INTRODUCTION

"Red pea" is a legume used in the preparation of some of the most popular dishes of Jamaica and thus forms a valuable source of protein in the diet of the populace.

Present production of red peas in Jamaica does not fulfill the demand for this crop and annual imports amount to four thousand short tons. Table 1 shows estimated acreages level of yield per acre and annual local production for the five year period, 1966 - 1970.

TABLE 1

Item	1966	1967	1968	1969	1970
Total acreage	5,333	8,127	12,387	7,689	6,837
Yield per acre (St. Tons)	0.30	0.23	0.25	0.27	0.31
Estimated production (St. Tons)	1,600	2,112	2,561	2,128	2,180

Source: Agricultural Planning Unit, Ministry of Agriculture, Jamaica, W.I.

There are five local cultivars known as "Round Red", "Portland Red", "Cockstone", "Miss Kelly" and "Light Red" commonly involved in production. It is, therefore, very important to determine the order of yield that can be obtained from these cultivars in the elevated limestone regions, which constitute the major "red pea" producing area of the territory.

EXPERIMENTAL PROCEDURE AND MATERIAL

Three experimental sites in the parish of Manchester were selected. Two occurred on the major soil type brown Bauxite or Chudleigh Clay Loam (Map #73). Of these one was located at Petersfield and the other at Grove Place. The third site was at Albion which was occupied by another major soil type, red bauxite or St. Anns Clay Loam (Map #78). The areas involved were representative of the prime red pea producing areas.

The design of the trials was a 5 x 5 latin square. The size of the plots was 12' x 12' providing a total of six rows (2' apart) four experimental rows and two guard rows. The length of the experimental rows was ten feet leaving one foot guard row at either end.

Standard method of tillage operations had resulted in a seed bed of good tilth. Particular care was paid to the removal of previous crop remains and coarse debris, leaving a smooth and clean surface. Planting was carried out by the creation of a shallow furrow four inches in depth and placing fertilizer 12:24:12 at the recommended rate of four cwts per acre (equivalent to 150 grams per row) in a continuous band at the bottom of the furrow. On closing the furrow uniform planting was carried out with treated (1 to 4 parts of dieldrin 80% W.P. and Orthocide 50% Captan) seeds at 2 inches depth and spaced 3 inches apart in the row.

Satisfactory weed control was obtained by a pre-emergence application of a mixture of Dacthal & Diphenamid (each at 2 lbs. per acre) and Gramoxone (1 pint per acre) diluted to a rate of forty gallons water per acre. Excellent prevention of pests and diseases was obtained by fortnightly "cocktail spraying" consisting of a mixture of a fungicide and insecticide (Dithane M45 at 2 lbs. per acre, Sevin at 2 lbs. per acre, Malathion at 1 pint per acre and Manzate D at 2 lbs. per acre). These mixtures were used in alternate operations. A sticker Triton at 4 oz. per one hundred gallons aided adherence. All operations were carried out by a low volume mist blower.

Observations were carried out on germination and crop vigor. At Grove Place growth was excellent in all plots but the "Miss Kelly" cultivar was particularly outstanding. At Petersfield germination was even throughout all cultivars but the "Portland Red" grew most vigorously. At Albion deficient rainfall during the critical stages of the crop resulted in patchy stand generally.

At Grove Place plots were planted on the 20th August, 1970, and harvested on the 28th October, 1970. At Petersfield experiment was planted on the 26th May, 1971, and harvested on the 10th August, 1971. At Albion planting was done on the 4th June, 1971, and harvested on the 24th August, 1971.

Data on the following yield components were collected: number of pods per plant, number of peas per pod, weight of pods per plant, and weight of dried grains per plant.

Because of the varying number of plants reaped in the Petersfield and Albion trials, it was necessary to standardize this number to 60 hence the data had to be transformed before analysis.

#### RESULTS

At Grove Place Duncan's Multiple Range Test (5%) revealed that the cultivar "Miss Kelly" was the best variety for peas per pod, pod/plant and shelled grain. It was followed closely by "Portland Red" from which it differs only in pod/plant. "Round Red" was intermediate for all the components of yield while "Cockstone" and "Light Red" occupied the lowest place. At the other two sites involved the cultivars "Round Red" and "Portland Red" gave the best results throughout.

#### DISCUSSION

In view of the somewhat irregular stands obtained in the two last mentioned trials and the adjustments necessary in yield data, the better performance of the cultivar "Miss Kelly" in the first named trial is considered indicative of that cultivar's true merit. The cultivars "Round Red" and "Portland Red" the runners up in the first trial emerged as the best varieties in subsequent trials. The relatively poor performance of "Cockstone" and "Light Red" in all trials conducted to date suggest that these cultivars hold little potential in a program designed to increase red pea production.

#### CONCLUSIONS

The cultivars "Miss Kelly", "Round Red" and "Portland Red" proved superior yielders to "Cockstone" and "Light Red". Although "Miss Kelly" proved best on the Grove Place site, its order of merit was reversed in subsequent trials in which it was out yielded by "Round Red" and "Portland Red". More research is necessary to determine the true merits of the last three mentioned cultivars which all show considerable promise.