SUMMARY OF THE PROPOSED PROGRAMME OF WORK FOR ADAPTIVE PRODUCTION-ORIENTED RESEARCH (SHORT-TERM) IN VEGETABLE PRODUCTION IN THE BRUMDEC PROJECT

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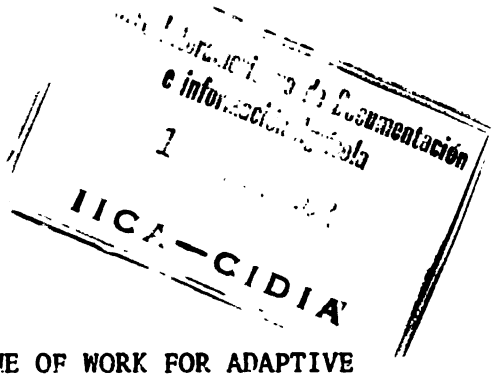

SUMMARY OF THE PROPOSED PROGRAMME OF WORK FOR ADAPTIVE PRODUCTION-ORIENTED RESEARCH (SHORT-TERM) IN VEGETABLE PRODUCTION IN THE BRUMDEC PROJECT

By

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IICA/Jamaica

January 1982

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BLACK RIVER UPPER MORASS DEVELOPMENT COMPANY LIMITED

(BRUMTEC)

SUMMARY OF THE PROPOSED PROGRAMME OF WORK FOR ADAPTIVE PRODUCTION ORIENTED RESEARCH (SHORT TERM) IN VEGETABLE PRODUCTION IN THE BRUMTEC PROJECT

1. INTRODUCTION

A review was done of the reports and recommendations pertaining to the BRUMTEC Project. Discussions were also held with the other Consultants, BRUMTEC Personnel, Ministry of Agriculture, Staff, and other persons knowledgeable in vegetable production. On the basis of this review and discussions this short term programme of work for adaptive production oriented research in vegetable production in the BRUMTEC Project is proposed.

2. OBJECTIVES

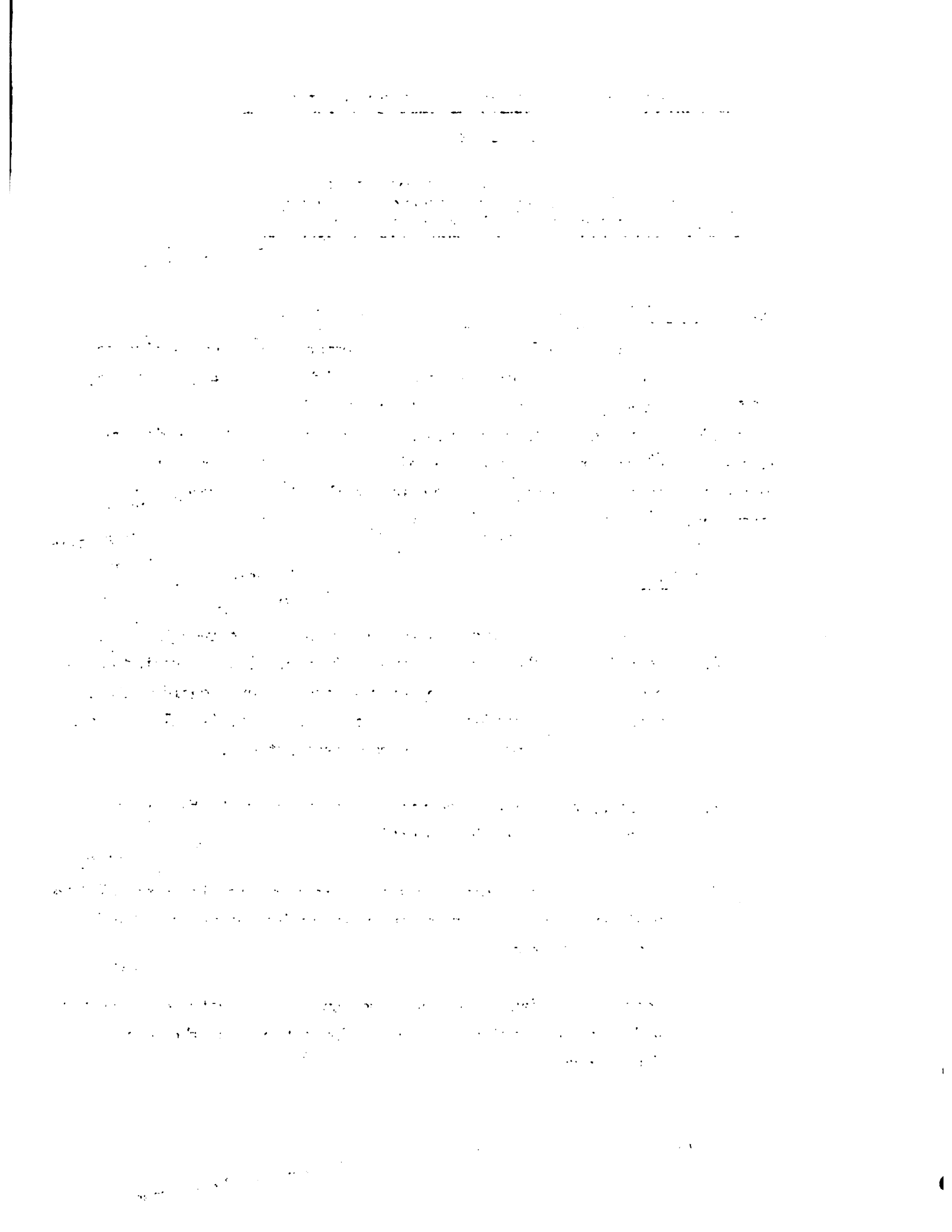
The programme of work has as its overall objectives the following:

2.1 Establishing the appropriateness of vegetables and varieties for production within the project area taking into consideration, seasonality of production, cultural practices, fertiliser regimes, yields, weeds, pests and diseases associations.

2.2 Training of national technicians consistent with the overall agronomy of vegetable production.

2.3 Developing a technical package of practices for implementing on-farm vegetable cultivation under conditions which prevail in the project area.

2.4 Accumulating data on the various aspects of vegetable production and which will provide the basis for determining those areas for future research.



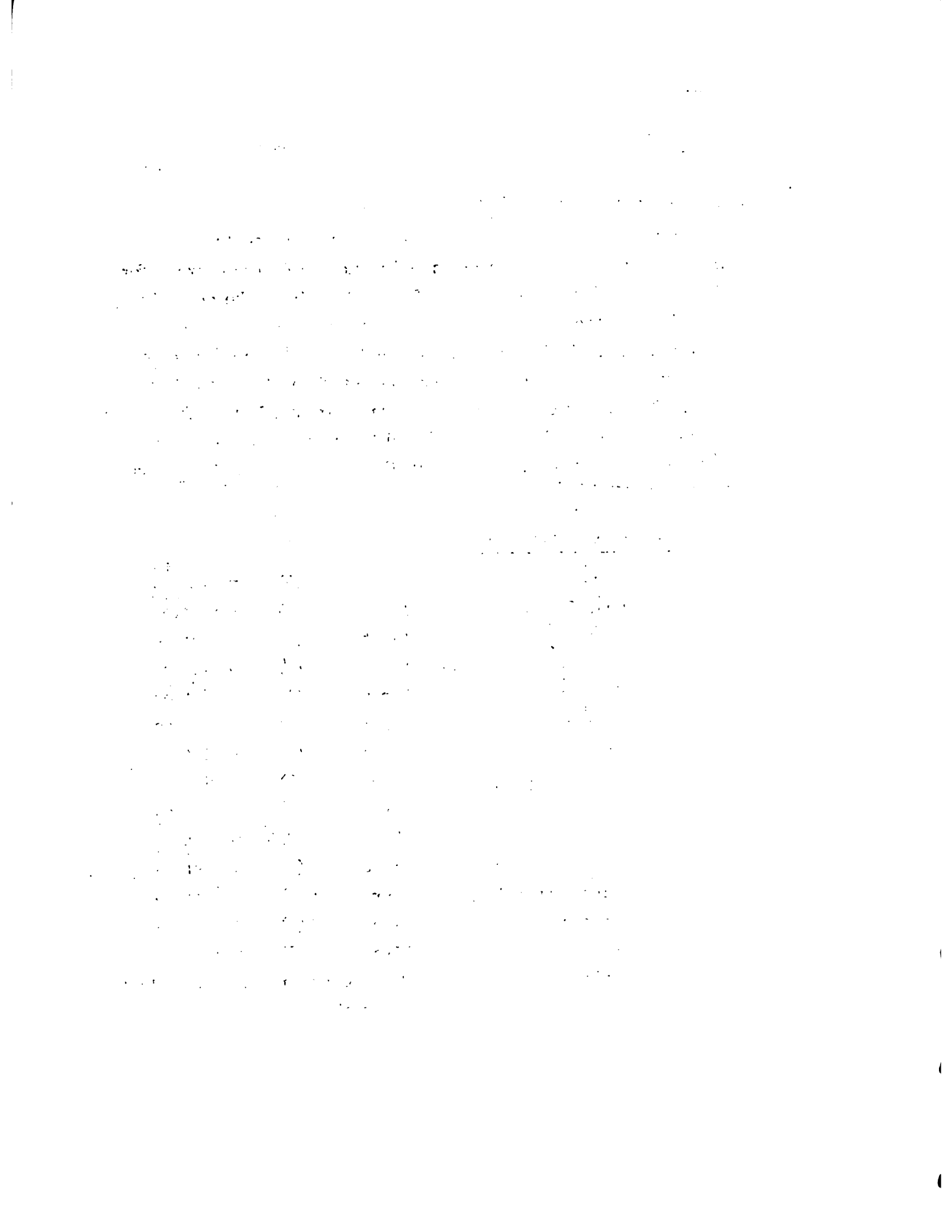
3. STRATEGY

The proposed strategy is as follows:

3.1 Main emphasis would be given during the first season's work to the selection of suitable crops and varieties of these crops for cultivation on the major soils of BPTMTEC. Since the economic viability of the project seems to lie to some extent on the utilisation of the Morass Peat Soil - 152 for the production of high priced vegetables major emphasis would be placed on this soil. Selected crops would also be tried on the Four Paths series of soils - Four Paths Clay - 203 and the Four Paths Loam -204 the second most widespread soil in the project after the Morass Peat Soil.

3.1.1 Morass Peat Soil -152

Cabbage	Nine	(9)	varieties
Cauliflower	Four	(4)	varieties
Lettuce	Eight	(8)	varieties
Peppers (Sweet & Hot)	Seven	(7)	varieties
Tomatoes	Twelve	(12)	varieties
Sweet Corn	Six	(6)	varieties
Celery	Three	(3)	varieties
String Beans	Nine	(9)	varieties
Egg Plant	Seven	(7)	varieties
Okra	Three	(3)	varieties
Onions (bulbing)	Eight	(8)	varieties
Onions (bunching)	Four	(4)	varieties
Carrots	Five	(5)	varieties
Beets	Five	(5)	varieties
Garlic	depending on receipt of planting material		



3.1.2 Four Paths Clay - 203 and Four Paths Loam -204

Melons	-	Four (4)	varieties
Cucumber	-	Four (4)	varieties
Onions (bulbing)	-	Eight (8)	varieties
Carrots	-	Five (5)	varieties
Beets	-	Five (5)	varieties
Tomatoes	-	Twelve (12)	varieties

3.2 Field experiments would be conducted with selected vegetables on the Morass Peat Soils No. 152, Four Path Clay 203 and Four Paths Loam -204 in order to establish the best N.P.K. treatments for these soils.

3.3 Micro-nutrient studies will be carried out in the field with the micro-elements - Copper, Manganese, Zinc, Iron and Boran to determine the amounts and method of application for optimum yields.

3.4 Selected vegetable crops would be sown during the different seasons in order to determine the optimum period for sowing, irrigation needs and the incidence of pests, diseases and weeds.

3.5 Based on the results obtained from the above trials, a package of practices will be developed for the production of vegetables on the three (3) soil types. These would be evaluated in large scale commercial trials.

3.6 The national technicians assigned to the vegetable programme will, as part of their training, be fully involved in all aspects of the work. At appropriate time other national technicians as well as farmers and other interested personnel will be invited to visit and information supplied.

4. METHODOLOGY

4.1 Experimental Methods

4.1.1 The variety evaluation experiments will be of randomized complete block design with four (4) replications. All of the varieties within each experiment will be given the same basic treatments in terms of cultural, fertilizer, pests, disease and weed control practices.

4.1.2 The fertilizer studies (N.P.K.) will be a 3x3x3 factorial experiment arranged in blocks of nine (9) treatments with two (2) replications. On the Morass Peat Soil 152 - a basal application of micro-nutrients (Fe, Zn, Cu, Mn and B) will be given.

4.1.3 The design of the micro-nutrient experiment will be that of a randomized complete block with four (4) replications. All of the plots will be given a basal application of N.P.K. The micro-nutrients will include Fe, Zn, Cu, Mn and B.

4.1.4 The design of this type of planting experiments will be in the form of a randomised split plot experiment in which the main plots will be the varieties and the sub-plot the time of planting. The experiment may be modified to include irrigation as one of the treatments to be evaluated.

4.1.5 The commercial trials will be in units of one half to one acre. The cost of production as well as the yields and returns will be recorded. These trials will also be used for training of national technicians, farmers and other interested parties.

5. REQUIREMENTS FOR THE PROGRAMME

The facilities in terms of personnel, land, inputs, tools and equipment for the programme are given in the Appendix 1. The initiation and the success of the programme will be dependent on these being provided as early as possible.

APPENDIX 1

REQUIREMENTS FOR ADAPTIVE RESEARCH PROGRAMME ON VEGETABLE PRODUCTION (BELIZE)

1. PERSONNEL

The following personnel would be required for the programme:

a) One (1) Agronomist - Agricultural Officer (Vegetable Production) as counterpart.

b) Two (2) Technicians - one to be appointed immediately and the other by end of November.

c) Ten (10) workers initially - number to be increased as the programme develops - workers would be needed around mid-October, 1981.

2. LAND

a) Five acres in the Morass Peat (152) - three acres to be prepared as soon as field conditions permit end of October.

b) Two (2) acres in the Four Paths Sandy Loam (204) - land preparation to commence by mid-October.

c) Two (2) acres in the Four Paths Clay (203) - Land preparation to commence by mid-October.

3. SEEDS

	Crop	Varieties	Quantity (lbs)
i)	Cabbage	King Cole	1
		Rio Verde	1
		Roundup	1
		K.K. Cross (summer stride)	1
		Hybrid YP Cross 20	1
		Bonanza	1
		Shamrock	1
		Hybrid YP (summer 50)	1
		Danish Bald Head	1
ii)	Lettuce	Great Lakes	½
		Mignonette	½
		Mesa	½
		Minetto	½

	Crop	Varieties	Quantity(lbs)
		Fulton	½
		Bibb	½
		Prizehead	½
		Black-seed Simpson	½
iii)			
	Cauliflower	Fengshan Extra Early	½
		Farmers Early # 3	½
		Snow Queen	½
		Early Patna	½
iv)			
	Peppers (hot)	Long Cayenne	½
		Scotch Bonnet	½
v)			
	Sweet Peppers	Early Calwonder	½
		Yolo Wonder	½
		Resistant Giant	½
		California Wonder	½
		Wonder Giant	½
vi)	Tomatoes	Walter	1
		Florade1	1
		Tropic	1
		Madhead of Quickie (Local variety from St. Elizabeth)	1
		Manapal	1
		M 118	1
		Manalucie	1
		Calypso	1
		Castlex 1025	1
		Ox-heart	1
		Floradade	1
		Roma	1

vii)	Sweet Corn	Sweet Tennessee	5
		Sunshine State	5
		USDA-34	
		Isabelle	5
		Golden Cup	5
		Floripold	5
viii)	Watermelon	Fengshan # 1 Seedless	1
		Sweet Baby	1
		Sugar Baby	1
		Charleston Grey	1
ix)	Celery	Golden Self Blanching Dwarf	½
		Waltham Strain Summer Pascal	½
		Golden Plume	½
x)	String Beans	Provider	1
		Harvester	1
		Sprite	1
		Extender	1
		Contender	1
		Eagle	1
		Tender best	1
		Prince	1
		Top Crop	1
			½
xi)	Egg Plant	Florida Market	½
		Pompano Market	½
		Black Beauty	½
		Early Prolific (hybrid)	½
		Black Bell	½
		Povado	½
		Florida Beauty	½
xii)	Cucumbers	Poinsett	½

		Cherokee	½
		Ashley	½
		Green Prolific	½
xiii)	Okra	Clemson Spineless	½
		Louisiana Green Velvet	½
		Emerald	½
xiv)	Onions (bulbing)	Texas Crano 502	1
		Tropicano Red	1
		Granex Hybrid	1
		Yellow Creole	1
		Red Creole	1
		Dessex	1
		Troni Brown	1
		Hybrid Bio	1
xv)	Onions (bunching)	Ebenezer	1
		White Portugal	1
		Silverskin	1
		Green Bunching	1
xvi)	Carrots	Waltham Highcolor	1
		Danvers 126	1
		Chantenay Royal	1
		Chantenay Red Core	1
		Nantes Cross Fi Hybrid	1
xvii)	Beets	Detroit Dark Red	1
		Early Wonder	1
		Top Market	1
		King Red	1
		Early Wonder Crossby Improved	1

4. FERTILIZERS

Type	Amount (lbs)
Urea (45%N)	1,300
Triple Superphosphate (45-50% P_2O_5)	2,600
Muriate of Potash (60% K)	3,200
Fritted Trace Elements (FTE)	100
Manganese Chelate	200
Copper Sulphate	200
Iron Chelate	10
Zinc Sulphate	10
Molybdenum	20
Borax	30
Magnesium Sulphate (Epsom Salts)	5

5. TOOLS

Type	Amount
Rakes	10
Hoes	10
Shovels	10
Machettes	10
Hammer	4

6. LABORATORY AND FIELD ITEMS

Torsion Balance scale (Model DPM 2-1)	1
Gram Scale (Capacity 550g. 16 ozs)	1
Graduated Cylinder (100cc)	4
" " (500 c.c.)	2
Soil Thermometer	2
Plastic Bags (8"x6")	500
Soil Auger	1
Tensiometers ("Quick Draw" Model 2900)	2

Measuring Tape (100 ft)	2
Tally meters	2
Plastic Buckets (20 l.)	5
Respirators (Seeburo No. 413)	6
Refrigerator (for storing seeds)	1

7. SPRAYING EQUIPMENT

Knapsack Sprayers (4 gls)	2
Constant Pressure Knapsack Sprayers (4 gls)	2
Motorised Mistblowers (Model Solo 410)	1

INSECTICIDES AND FUNGICIDES

Type	Quantity
Metaldehyde Bait	50 lbs
Dinterex 80-90% SP	50 lbs
Dimethoate (Rogor 40, Perfekthion)	1 gallon
Fernasan 75 W	10 lbs
Benlate 50 W	20 lbs
Copper fungicide (Nocide 101, Cupravit)	50 lbs
Dithane M45	50 lbs

8. HERBICIDES

Gramaxone	1 gallon
Kerosene Oil	5 gallons
Dacthal 75 W	10 lbs
Bladex 80 WP	10 lbs
Lasso 4 E	2 gallons
Tok 50 WP	10 gallons

9. FIELD EQUIPMENT

Irrigation Pump 2" - 3" with hose	2
Garden Tractor (15-25 HP) with ploughs, harrows, rotovators etc.	
Portable Irrigation Unit	1

10. MISCELLANEOUS

Stakes	500
White Paint	1 gallon
Black Paint	1 gallon
Marking Brush	10
Polythene Card	400 meters

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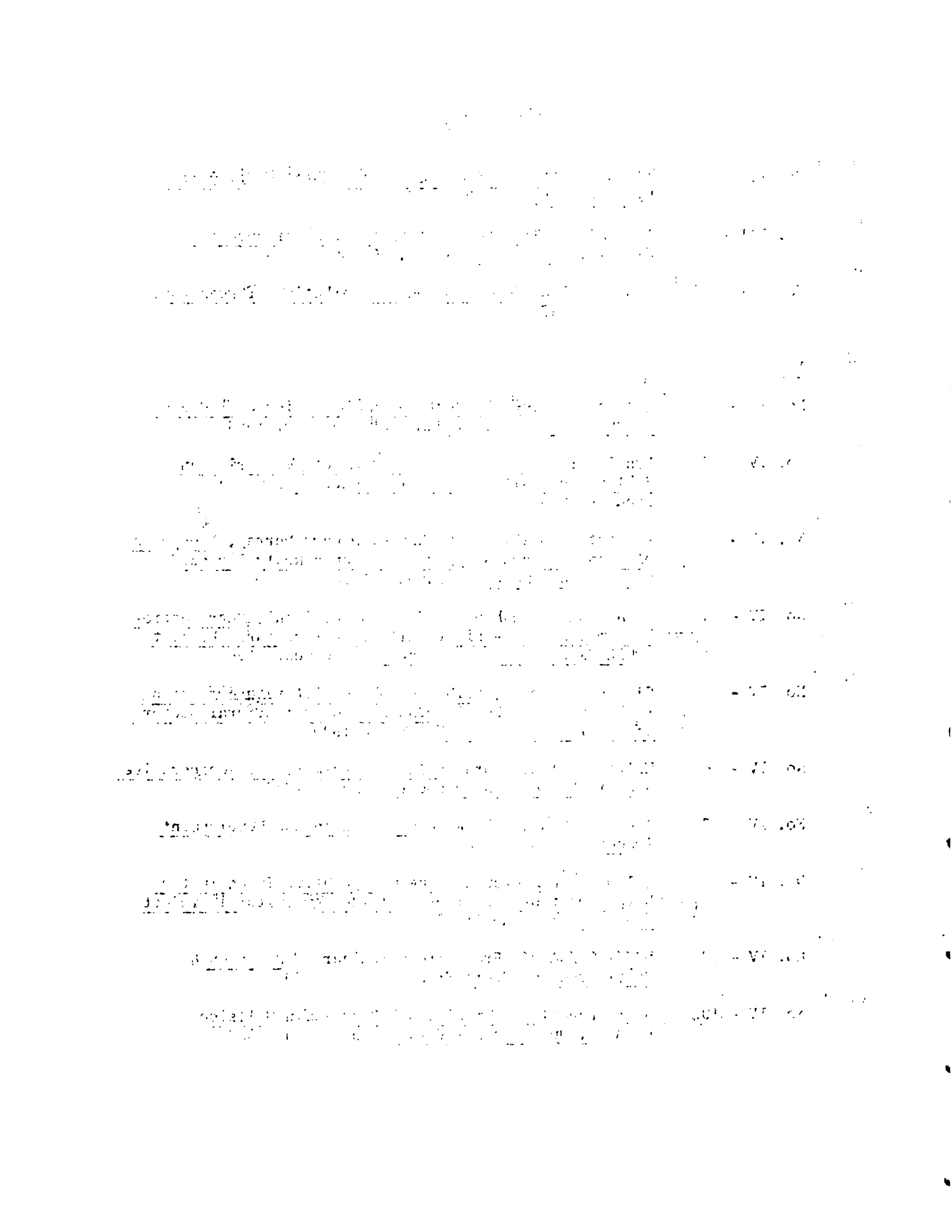

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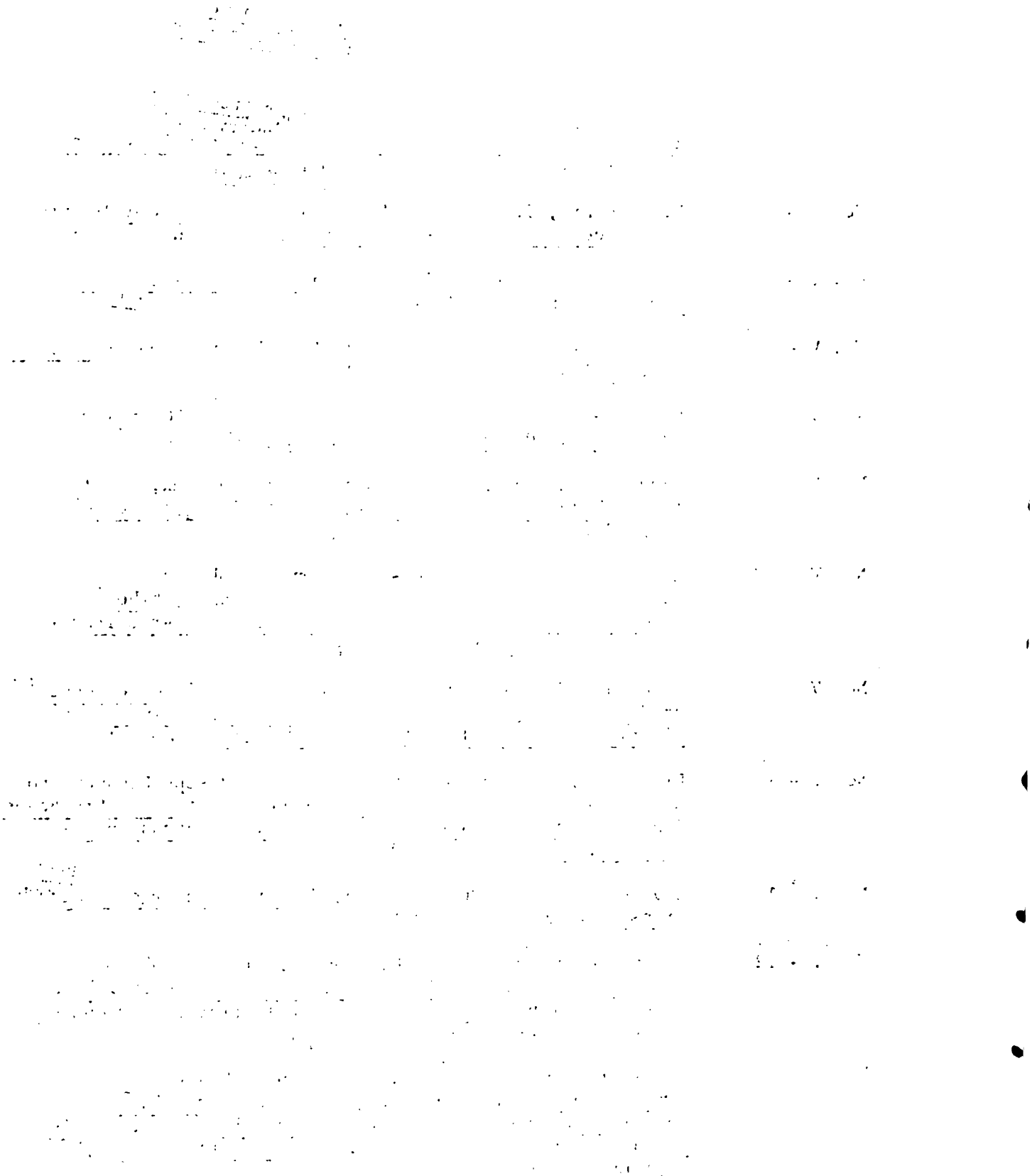

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