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**EXPERIMENTAL DESIGNS
FOR
CASSAVA & PEANUT PRODUCTION
SYSTEMS**

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**Ministry of Agriculture of Jamaica
IICA/JAMAICA**

**X Miscellaneous Publication #356
Series ISSN-0534-5391**

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EXPERIMENTAL DESIGN

FOR

CASSAVA & BEANUT PRODUCTION

SYSTEMS

Ministry of Agriculture of Jamaica

AGRICULTURE

Miscellaneous Publication 556

Series 1821-0230-5291

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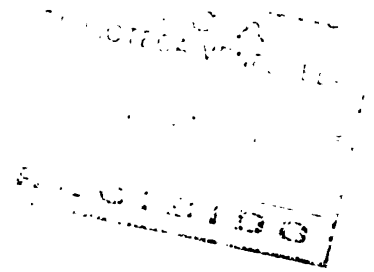
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**EXPERIMENTAL DESIGNS FOR
CASSAVA AND PEANUT PRODUCTION SYSTEMS**

by

20:0000

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**Ministry of Agriculture of Jamaica
IICA/JAMAICA (FSB)**

June 1982

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FOREWORD

We are very pleased to publish this first work on the FSB "Cassava/Peanut Production Systems Project".

The experimental designs are excellent, the experimental work is being done with scientific rigor and the results could be of very great use for the country.

Dr. Franklin Rosales and his assistants have shown an outstanding performance in the short time of the life of the project.

We welcome this initial paper in the IICA/Jamaica collection "Agriculture in Jamaica".

Percy Aitken-Soux
Director

1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes that proper record-keeping is essential for transparency and accountability, particularly in financial reporting and auditing. The text notes that incomplete or inaccurate records can lead to significant errors and discrepancies, which may have legal and financial consequences.

2. The second part of the document outlines the various methods and tools used to collect and analyze data. It mentions the use of spreadsheets, databases, and specialized software to organize large volumes of information. The text also discusses the importance of data validation and quality control to ensure that the information being used is reliable and accurate. It highlights that regular audits and reviews are necessary to identify and correct any issues with the data collection process.

3. The third part of the document focuses on the analysis and interpretation of the collected data. It describes how statistical methods and other analytical techniques are used to identify trends, patterns, and anomalies. The text stresses that a thorough understanding of the data is crucial for making informed decisions and drawing valid conclusions. It also mentions the importance of documenting the analysis process and the results of the analysis for future reference and reporting.

4. The final part of the document discusses the reporting and communication of the findings. It notes that clear and concise reports are essential for conveying the results of the analysis to stakeholders. The text emphasizes the importance of providing context and supporting evidence for the conclusions drawn. It also mentions the need for ongoing communication and collaboration with relevant parties to ensure that the information is used effectively and that any necessary actions are taken.

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EXPERIMENTAL DESIGNS FOR
CASSAVA AND PEANUT PRODUCTION SYSTEMS

I N T R O D U C T I O N

The problems affecting agriculture in Jamaica are many in number and diversity. The most notorious effects of them are the low productivity and income, low production and a large dependency on imported foods.

Farmers have not been able to produce quantities which lie within the country's potential, thereby losing opportunities to exploit the favourable prices that could be obtained on world markets.

The Government policy in agriculture calls for a reduction of imported foods, increased employment and production levels, and serious considerations to increasing import substitution and export earnings. Two of the crops which have a potential for accomplishing these government goals are cassava and peanuts. Producers of these two crops are being encouraged through various incentive schemes to improve, expand as well as to intensify their cultivation. The efforts of many farmers have resulted in low production and productivity which lead eventually to a high unit cost of production.

The major factors affecting low production and productivity are: inappropriate land utilization practices and low technology level; inadequate credit; sub-standard training; inappropriate social organization and marketing. The two crops are produced mainly by small farmers on steep marginal lands and in plots of under 5 acres in size.

A number of measures have been taken to solve some of the existing problems. Government has secured land to enable farmers to produce several crops including cassava and peanuts. Farmers have been assisted with production credit and also technical assistance provided by the extension service of the Ministry of Agriculture (MINAG). Also, in the hope of promoting increased production of cassava, the Government of Jamaica (GOJ) installed a cassava processing plant at Goshen in the parish

The first part of the document discusses the importance of maintaining accurate records and the role of the auditor in this process. It highlights the need for transparency and the potential consequences of failing to do so.

It is essential for all parties involved to understand their responsibilities and the implications of their actions. The auditor's primary duty is to provide an objective assessment of the financial statements, ensuring that they are free from material misstatements.

The second part of the document focuses on the specific procedures and standards that must be followed during the audit process. This includes the selection of samples, the use of professional judgment, and the documentation of findings.

Proper documentation is crucial for the audit trail, allowing for a clear and concise record of all work performed. This not only aids in the completion of the audit but also provides a basis for future reviews and inquiries.

The third part of the document addresses the communication of audit results. It emphasizes the importance of clear and timely reporting to the appropriate management and regulatory bodies. Any identified issues should be clearly stated and supported by evidence.

Finally, the document concludes with a summary of the key points and a call to action for all stakeholders to uphold the highest standards of integrity and professionalism. The audit process is a critical component of the financial reporting system, and its success depends on the commitment of everyone involved.

In conclusion, the audit process is a complex and demanding task that requires a high level of skill, knowledge, and ethical conduct. By adhering to the principles and standards outlined in this document, auditors can ensure that the financial statements they audit are reliable and trustworthy.

of St. Elizabeth in 1979. This plant is designed to process cassava tubers into starch and flour.

B A C K G R O U N D

In December 1, 1981, an agreement was signed between the Inter-American Institute for Cooperation on Agriculture (IICA) and the Ministry of Agriculture (MINAG) of Jamaica for the execution of a project to be financed from IICA's Simon Bolivar Fund, titled "Cassava and Peanut Production and Implementation Study in Jamaica". This project entered into force on January 1, 1982, with a proposed life of two years.

The responsibility of the IICA office in Jamaica is to cooperate with the national organization (the Land Authority of St. Elizabeth - MINAG) in developing appropriate technology for the production of cassava and other associated crops (peanuts, beans, peas) based on improved cropping systems and efficient utilization of land, water and human resources. Also, IICA will assist in disseminating the technology to be developed among farmers in those areas selected for the production of these crops.

The project is expected to assist in alleviating the country problems mentioned above by promoting and increasing the production and productivity of cassava, peanuts and other associated crops. The main purpose of producing more cassava is for use in agro-industry to substitute a part of the imported wheat flour used in the baking industry, thereby reducing expenditure of scarce foreign exchange earnings. Additionally, it will lead to the production of food and starch.

The utilization of better production systems, either mono- or multiple cropping, will also intensify the use of land, water and human resources as well as to improve income and food diet of farmers in the project area. Peanuts are particularly important in this context from a human nutritional point of view and also as a means of reducing imports. Development of peanut production will form a useful base for the improvement and expansion of the national peanut industry.

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O B J E C T I V E S

The specific objectives of the GOJ/IICA project is to cooperate with and assist the Land Authority of St. Elizabeth in:

1. Collecting, selecting and maintaining germ plasm material and providing facilities for bulking and distributing promising cultivars to farmers.
2. Increasing food production for the cassava and peanut growers in the project area.
3. Providing in-service training for national technicians assigned to the project and farmers for the project area in subjects such as research and production of cassava, peanuts and other associated crops.
4. Assisting the GOJ in the dissemination of improved technology developed in the project; and
5. Assisting in determining satisfactory arrangements for marketing and for creating suitable farm organizations for obtaining farm inputs and production credit.

S T R A T E G Y

The Inter-American Institute for Cooperation on Agriculture (IICA) through its Simon Bolivar Fund is providing a grant for a period of two years during which time it will make technical assistance available. In this period priority is being centered on solving the main deficiencies in the cultural production practices of the farmer's cropping systems. All local (and some foreign) available technology and germ plasm material will be used to backstop the adaptive research and development action of the project.

1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes that proper record-keeping is essential for transparency and accountability, particularly in financial matters. This section also touches upon the legal implications of failing to maintain such records, which can lead to severe consequences for individuals and organizations alike.

2. The second part of the document delves into the specific requirements for record-keeping, including the types of documents that must be retained and the duration for which they should be kept. It provides a detailed overview of the various categories of records, such as financial statements, contracts, and correspondence, and outlines the best practices for organizing and storing these documents to ensure they are easily accessible and secure.

3. The third part of the document addresses the challenges associated with record-keeping, particularly in the context of digital information. It discusses the risks of data loss, corruption, and unauthorized access, and offers strategies to mitigate these risks. This includes the use of secure storage solutions, regular backups, and access controls to protect sensitive information.

4. The fourth part of the document focuses on the role of record-keeping in legal proceedings. It explains how well-maintained records can serve as crucial evidence in court cases, helping to establish facts and support legal arguments. It also discusses the importance of preserving records in their original form or as certified copies to ensure their admissibility in court.

5. The fifth part of the document provides a summary of the key points discussed and offers final recommendations for ensuring compliance with record-keeping requirements. It encourages individuals and organizations to adopt a proactive approach to record-keeping, viewing it as a fundamental aspect of good governance and risk management.

In the field of research adequate contacts, inside and outside the country, will be made to collect germ plasm material of cassava, peanuts, beans, others, for field-testing. Adaptive research and varietal screening for the inter-cropping systems of cassava will be initiated and a research plot for the bulking of promising germ plasm will be established. Several on-farm tests are programmed to validate the most outstanding results of the adaptive research.

In-service training for national technicians and farmers will be organized in collaboration with MINAG.

In the field of social groups' organization steps are programmed to initiate and to strengthen farm organizations in order to obtain inputs and production credit. Also, advice will be provided to develop a market system for cassava.

It is further assumed that at the end of the two-year period when the IICA contribution ceases MINAG itself will put in place strategies and resources (conceived at the end of the first year) for continuation of the project, to ensure that there is the best use of the resources applied in the project. Counterparting and technology transfer are essential to the success and meeting project objectives after IICA's funding and technical assistance cease.

O N - G O I N G R E S E A R C H

In the first cropping cycle of 1982 (April - September) field work is concentrated mainly in the parish of St. Elizabeth (Goshen and Elim) and the rest at the Thetford Seed Farm (St. Catherine parish). The main crops considered are cassava and peanuts but consideration is also given to crops such as corn, sorghum, cowpeas and pigeon peas. Multiple cropping using cassava as the principal component of the systems, comprises the major project activity. Peanuts as a mono-crop is also studied in some detail. The following is a short description of the eight experimental designs used until now.

Handwritten text, likely bleed-through from the reverse side of the page. The text is extremely faint and illegible due to the quality of the scan. It appears to be a list or series of entries, possibly names and dates, but the characters are too light to transcribe accurately.

CASSAVA/CORN MULTIPLE CROPPING

Objectives:

1. To determine the optimum planting distance for the cassava variety No. 69 when grown in association with corn.
2. To study the performance of two corn varieties when planted in association with cassava.
3. To quantify the effect on the cassava yield caused by pruning the young cassava canopy 7 months after planting.
4. To identify the best cropping combination in terms of production and economics, resulting from the interaction of the three variables (namely cassava spacing, corn varieties the levels of pruning) studied under this experiment.

Variables:

- A = 3 cassava spacings
- B = 2 corn varieties
- C = 2 levels of pruning cassava

Experimental Design:

Split-split plot with the cassava spacing (3) arranged in a Randomized Complete Block design with 3 replications.

Planting Material:

Cassava = variety 69 (local), Thetford Seed Farm
Corn = No. 75 - 36 and a local variety



Spacing:

Cassava = see table with treatment description

Corn = 75cm between rows and 25cm between plants

Area:

2500 m²

Plot Size:

Sub-sub plots = 7.5 x 7.5 m

Sub plots = 15.0 x 7.5 m

Main plots = 15.0 x 15.0 m

Treatment Description and Plot Randomization

No. of Treatments	Description*	Plot Number		
		I	II	III
1	a ₁ b ₁ c ₁	6	2	3
2	a ₁ b ₁ c ₂	7	11	10
3	a ₁ b ₂ c ₁	8	1	9
4	a ₁ b ₂ c ₂	5	12	4
5	a ₂ b ₁ c ₁	2	8	11
6	a ₂ b ₁ c ₂	11	5	2
7	a ₂ b ₂ c ₁	1	6	1
8	a ₂ b ₂ c ₂	12	7	12
9	a ₃ b ₁ c ₁	3	4	8
10	a ₃ b ₁ c ₂	10	9	5
11	a ₃ b ₂ c ₁	9	3	7
12	a ₃ b ₂ c ₂	4	10	6

*Description

A = Cassava Spacing

a₁ = 1.5 x 1.5 m

a₂ = 1.0 x 1.0 m

a₃ = 0.6 x 0.6 m + 2.0 m skip (Double row)

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B = Corn Varieties

b_1 = No. 75-36 (Yellow)

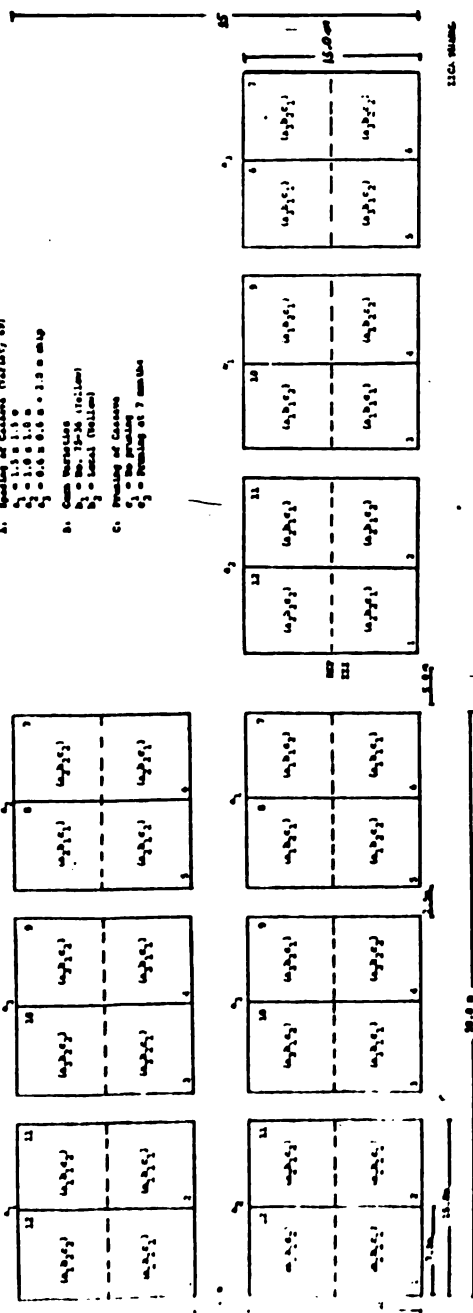
b_2 = Local (Yellow)

C = Pruning of cassava

c_1 = No pruning

c_2 = Pruning at 7 months after planting (only the young canopy which is not recommended for planting material)

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CHESTFORD 8201

TREATMENTS:

A: Spacing of Cassava (Variety 69)

$a_1 = 1.5 \times 1.5$ m

$a_2 = 1.0 \times 1.0$ m

$a_3 = 0.6 \times 0.6$ m + 2.0 m skip

B: Corn Varieties

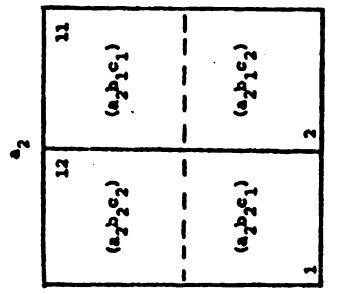
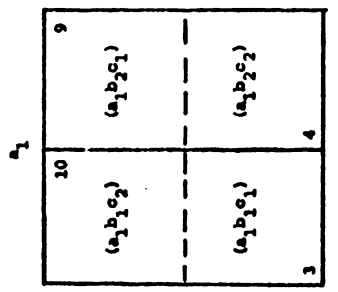
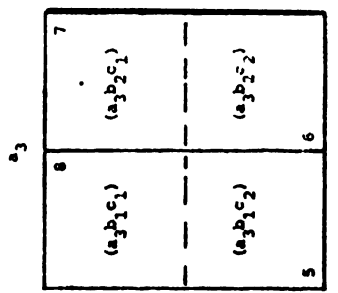
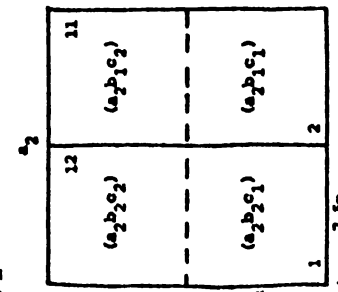
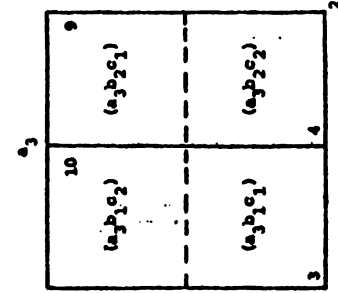
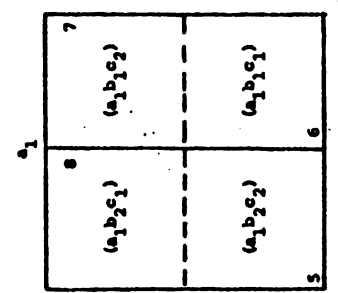
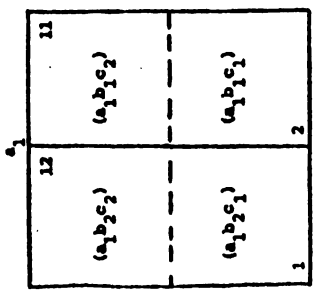
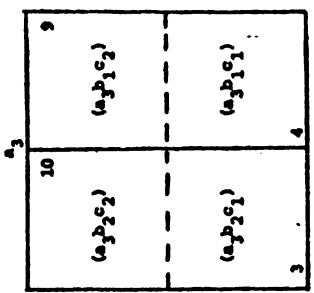
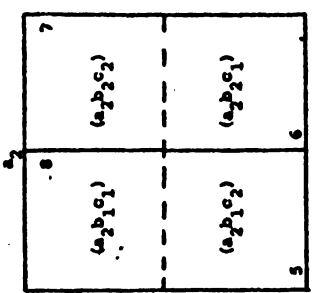
$b_1 =$ No. 75-36 (Yellow)

$b_2 =$ Local (Yellow)

C: Pruning of Cassava

$c_1 =$ No pruning

$c_2 =$ Pruning at 7 months



IICA/INIBAS

REP III

50.0 m

7.5m

15.0m

1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes that this is crucial for ensuring transparency and accountability, particularly in the context of financial reporting and auditing. The text highlights that proper record-keeping allows for the identification of any discrepancies or irregularities that may arise, thereby enabling prompt investigation and resolution.

2. In the second section, the focus shifts to the role of internal controls in mitigating risks and preventing fraud. The document explains that a robust system of internal controls is essential for safeguarding an organization's assets and ensuring the integrity of its financial statements. It outlines various control measures, such as segregation of duties, authorization requirements, and regular reconciliations, which are designed to minimize the likelihood of errors and misstatements.

3. The third part of the document addresses the significance of external audits in providing an independent assessment of an organization's financial health. It notes that external audits are conducted by qualified professionals who adhere to strict standards and provide an objective opinion on the accuracy and reliability of the financial information presented. This process is vital for building trust among stakeholders, including investors, creditors, and regulatory authorities.

4. Finally, the document concludes by discussing the importance of ongoing monitoring and evaluation of the internal control system. It states that internal controls are not static; they must be regularly reviewed and updated to reflect changes in the organization's structure, operations, and the external environment. This continuous process ensures that the internal control system remains effective and relevant, thereby supporting the organization's long-term success and sustainability.

PEANUTS, GYPSUM LEVELS * VARIETIES * N LEVELS

Objectives:

1. To study the yield response and seed quality of two Valencia type peanut varieties grown under five different levels of gypsum (CaSO_4) application before pegging time.
2. To determine the effect on production of applying no Nitrogen or using 30 kg/ha as a starter for two peanut varieties.
3. To identify and measure single or multiple effects of the variables under study.
4. To identify the races and to study the biological activity of the local Rhizobium spp under the application of five levels of gypsum, 2 levels of N and two different peanut varieties, respectively.

Variables:

- A = 5 levels of Gypsum (CaSO_4)
- B = 2 peanut varieties (Local and NK-62)
- C = 2 N levels

Experimental Design:

Split-split plot with the gypsum levels (MP) arranged in a Randomized Complete Block design with 4 replications.

Spacing:

45 cm between rows and 10 cm between plants

Area:

1008 m²

1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes that this is crucial for ensuring transparency and accountability in the organization's operations.

2. The second part of the document outlines the various methods and tools used to collect and analyze data. It highlights the need for consistent data collection procedures and the use of advanced analytical techniques to derive meaningful insights from the data.

3. The third part of the document focuses on the role of technology in data management and analysis. It discusses how modern software solutions can streamline data collection, storage, and processing, thereby improving efficiency and accuracy.

4. The fourth part of the document addresses the challenges associated with data management, such as data quality, security, and privacy. It provides strategies to mitigate these risks and ensure that the data remains reliable and secure throughout its lifecycle.

5. The fifth part of the document concludes by summarizing the key findings and recommendations. It stresses the importance of a data-driven approach in decision-making and the need for continuous monitoring and improvement of the data management process.

Plot Size:

Sub-sub plots = 3.15 m wide by 3.0 m long (SSP)
 sub plots = 3.15 m wide by 6.0 m long (SP)
 Main plots = 6.30 m wide by 6.0 m long (MP)

Gypsum Levels:

0, 200, 400, 600 and 800 kg/ha

N Levels:

0 and 30 kg/ha

Treatment, Description and Plot Randomization

No. of Treatment	Description*	I	II	III	IV
1	a ₁ b ₁ c ₁	12	10	8	8
2	a ₁ b ₁ c ₂	9	11	13	13
3	a ₁ b ₂ c ₁	10	12	14	7
4	a ₁ b ₂ c ₂	11	9	7	14
5	a ₂ b ₁ c ₁	13	7	12	19
6	a ₂ b ₁ c ₂	8	14	9	2
7	a ₂ b ₂ c ₁	7	8	10	20
8	a ₂ b ₂ c ₂	14	13	11	1
9	a ₃ b ₁ c ₁	2	4	15	9
10	a ₃ b ₁ c ₂	19	17	6	12
11	a ₃ b ₂ c ₁	1	3	5	11
12	a ₃ b ₂ c ₂	20	18	16	10
13	a ₄ b ₁ c ₁	15	2	20	3
14	a ₄ b ₁ c ₂	6	19	1	18
15	a ₄ b ₂ c ₁	16	20	2	4
16	a ₄ b ₂ c ₂	5	1	19	17
17	a ₅ b ₁ c ₁	4	5	18	15
18	a ₅ b ₁ c ₂	17	16	3	6
19	a ₅ b ₂ c ₁	18	15	4	16
20	a ₅ b ₂ c ₂	3	6	17	5

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* a ₁ = 0 Gypsum	b ₁ = local variety
a ₂ = 200 kg/ha	b ₂ = NK-62
a ₃ = 400 kg/ha	
a ₄ = 600 kg/ha	c ₁ = 0 Nitrogen
a ₅ = 800 kg/ha	c ₂ = 30 kg of N/ha

Gypsum levels (CaSO₄) (Plot size = 37.8m²)

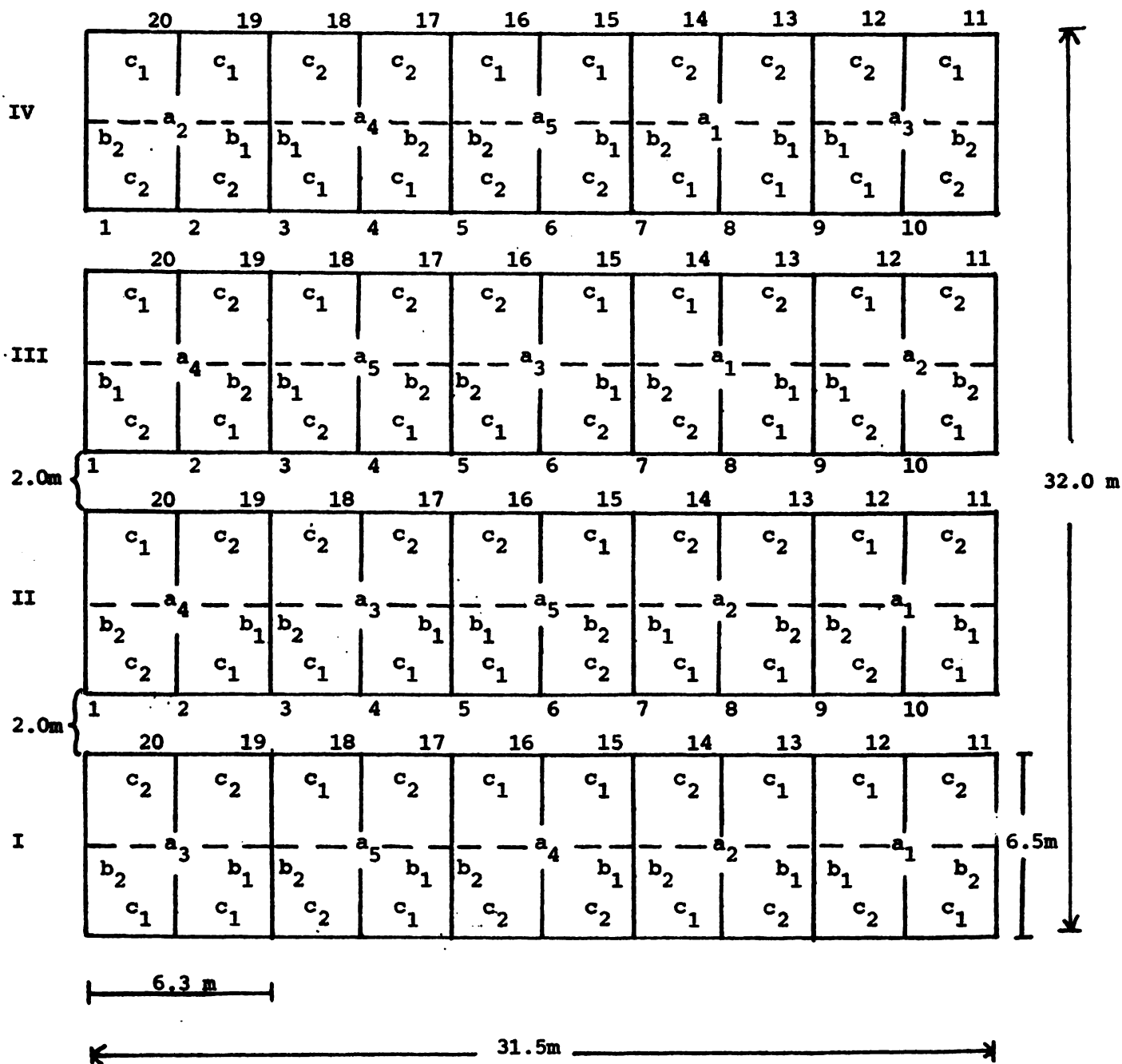
(a ₁) 0 kg/ha	=	0
(a ₂) 200 kg/ha	=	756 grs/plot
(a ₃) 400 kg/ha	=	1512 grs/plot
(a ₄) 600 kg/ha	=	2268 grs/plot
(a ₅) 800 kg/ha	=	3024 grs/plot

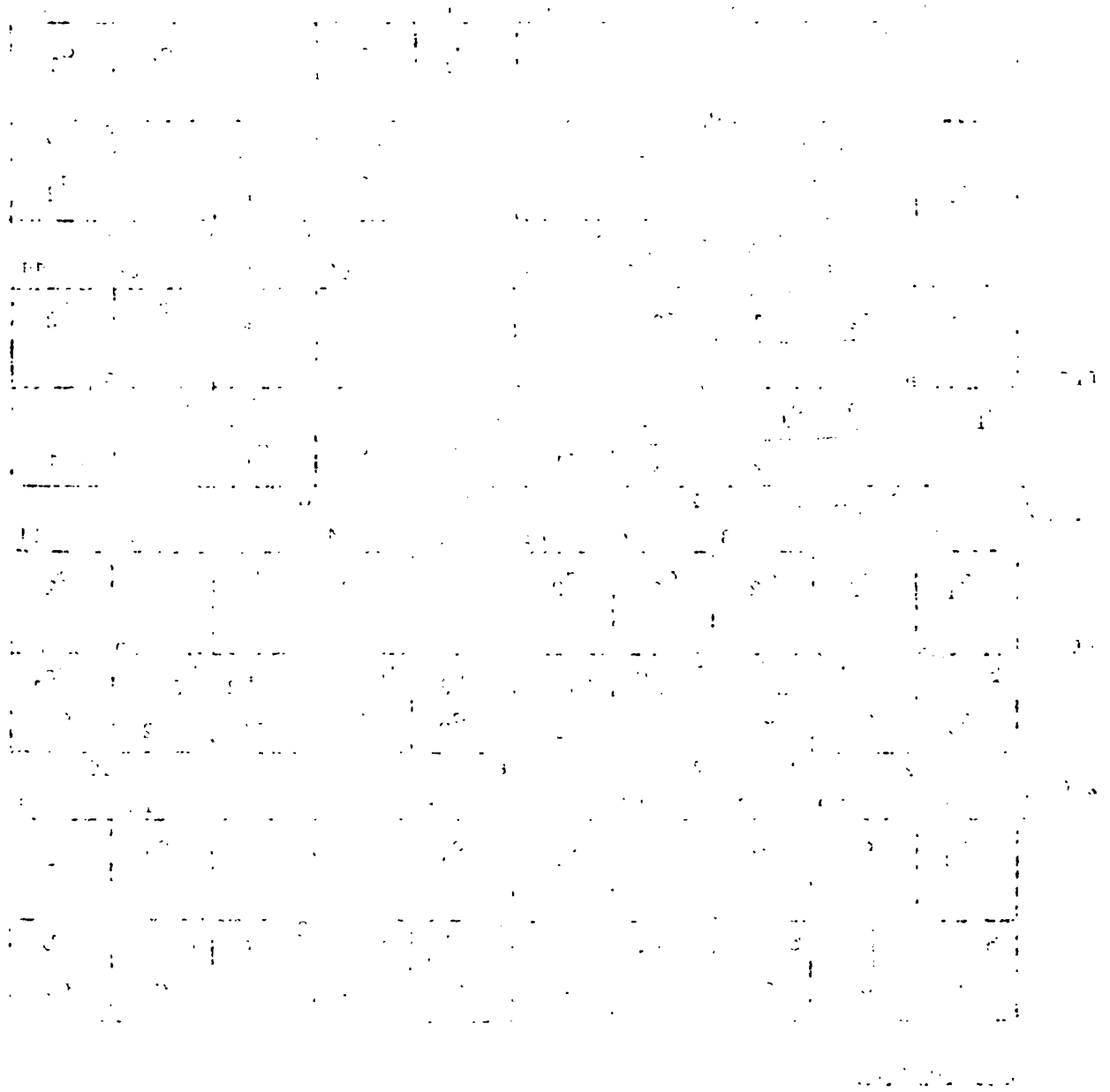
N levels (Plot size = 9.45 m²)

(c ₁) 0 kg/ha	=	0
(c ₂) 30 kg/ha	=	1.4 kg/plot of sulphate of Ammonia (20-21% N)

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PEANUTS, GYPSUM LEVELS * VARIETIES * N LEVELS

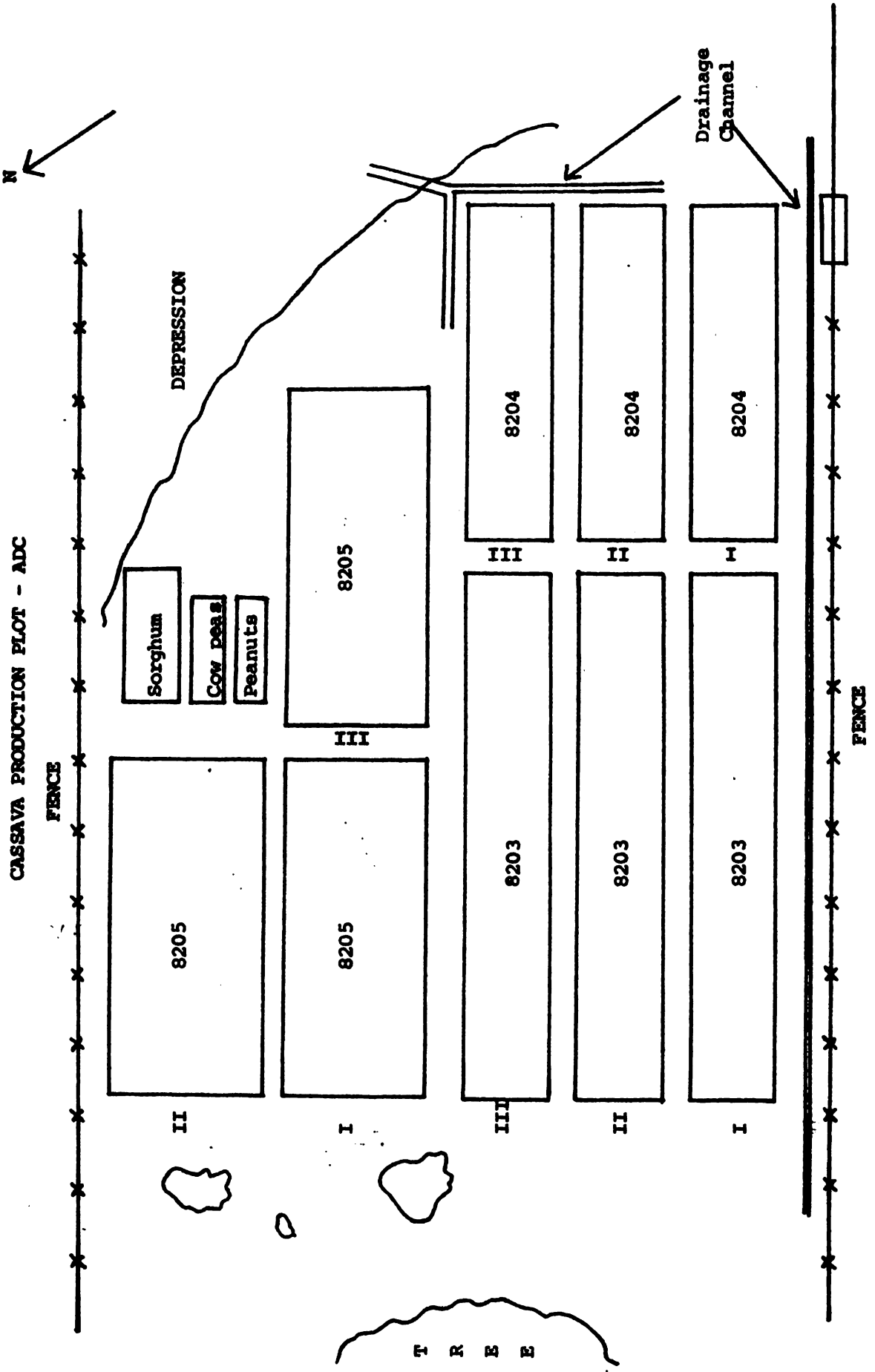


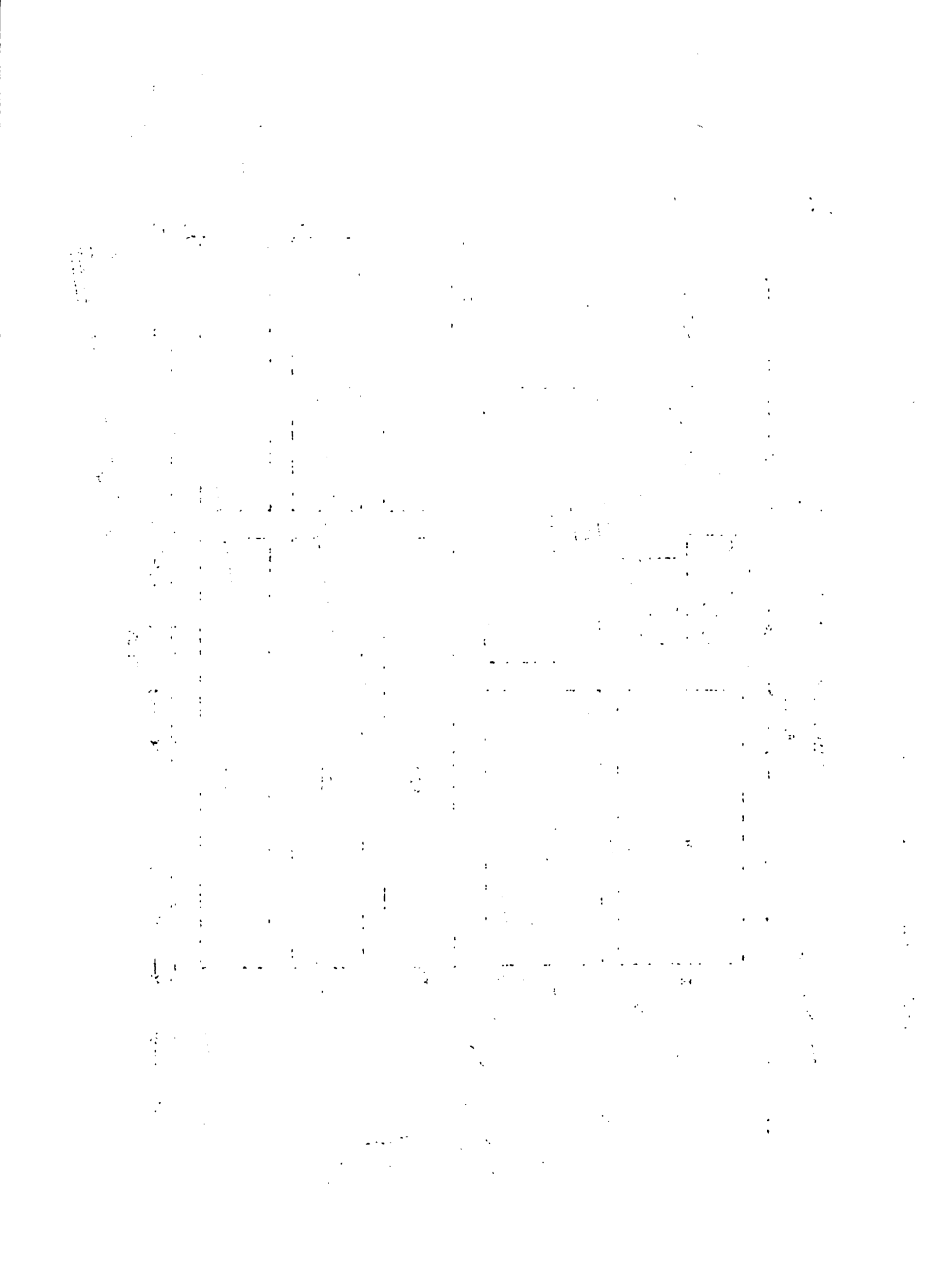


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CASSAVA (SPACING)/PEANUTS MULTIPLE CROPPING

Objectives:

1. To identify the optimum planting distance for cassava variety No. 69 when grown in association with peanuts.
2. To identify the optimum cassava and peanut combination in terms of production and economics for a given area.

Variables:

Six cassava spacings intercropped with one peanut variety.

1. 0.6 x 0.6 m + 2.0 m skip (double row)
2. 1.0 x 1.0 m
3. 1.5 x 1.0 m
4. 1.5 x 1.5 m (the local standard)
5. 2.0 x 1.0 m
6. 2.0 x 1.5 m

note: the cassava population goes from a lower 4000 plants (2.0 x 1.5 m) to a higher 11,556 plants per hectare (0.6 x 0.6 m). Peanuts will be planted to fill all open spaces between the cassava rows which allows 2, 4 or 6 peanut rows depending on which of the three (1.0, 1.5 or 2.0 m) row spaces are used. Peanuts are planted at a distance of 30 x 10cm.

Experimental Design:

A Randomized Complete Block design with 6 treatments and 3 replications.

Planting Material:

Cassava = variety No. 69 (local), Thetford Seed Farm

Peanuts = Valencia type (local), Thetford Seed Farm

Area:

1287 m²

Plot Size:

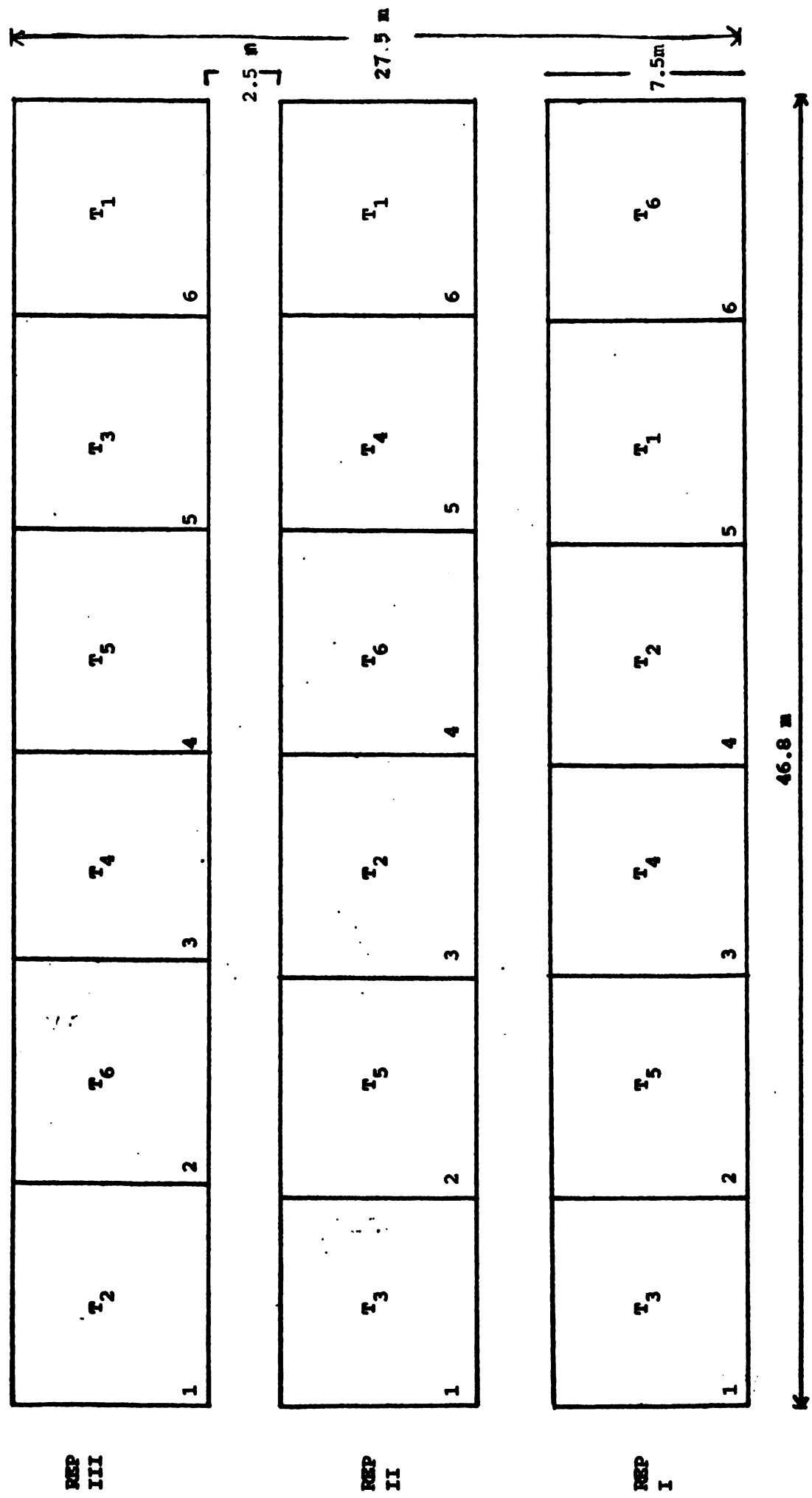
8 m x 7.5 m

Treatment Description and Plot Randomization

No. of Treatments	Description*	Plot Number		
		I	II	III
1	0.6 x 0.6 m + 2.0 m	5	6	6
2	1.0 x 1.0 m	4	3	1
3	1.5 x 1.0 m	1	1	5
4	1.5 x 1.5 m	3	5	3
5	2.0 x 1.0 m	2	2	4
6	2.0 x 1.5 m	6	4	2

* cassava spacing

note: only one crop of peanuts will be planted during the cassava growing cycle - Cassava will not be pruned.



1	2	3
4	5	6
7	8	9
10	11	12
13	14	15
16	17	18
19	20	21
22	23	24
25	26	27
28	29	30
31	32	33

CASSAVA MULTIPLE CROPPING (NO PRUNING)

Objectives:

1. To identify the most productive and economically feasible of the four cropping systems in which cassava is the main component.
2. To study the yield performance of peanuts, cowpeas and sorghum when grown in association with cassava.

Variables:

Four cropping systems having cassava as the main component.

1. Cassava Monocrop
2. Cassava/Peanuts - Sorghum*
3. Cassava/Cow Peas - Sorghum*
4. Cassava/Sorghum - Sorghum*

* second intercrop to be planted between the cassava rows after harvesting the first associated crops (peanuts, cow peas, sorghum).

Experimental Design:

A Randomized Complete Block design with 4 treatments and 3 replications.

Planting Material:

Cassava = variety 69 (local), Thetford Seed Farm
Peanuts = Valencia type (local), Thetford Seed Farm
Cow Peas = African Red (local), Thetford Seed Farm
Sorghum = Midlands Variety, produced locally by ADC.

100
100
100

100

100

Spacing:

Cassava = 1.5 x 1.5 m (local standard)
Peanuts = 30 x 10 cm
Cow Peas = 30 x 10 cm
Sorghum = 70 cm between rows and drill

Area:

825 m²

Plot Size:

7.5 x 7.5 m

Treatment, Description and Plot Randomization				
No. of Treatment	Description	Plot Number		
		I	II	III
1	Cassava Monocrop	4	1	1
2	Cassava/Peanuts - Sor.	2	2	3
3	Cassava/Cow Peas "	3	3	4
4	Cassava/Sorghum "	1	4	2

1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes that proper record-keeping is essential for transparency and accountability, particularly in financial reporting and compliance with regulatory requirements.

2. The second part of the document outlines the various methods and tools used to collect, store, and analyze data. It highlights the need for robust data management systems that can handle large volumes of information and provide easy access to key insights and trends.

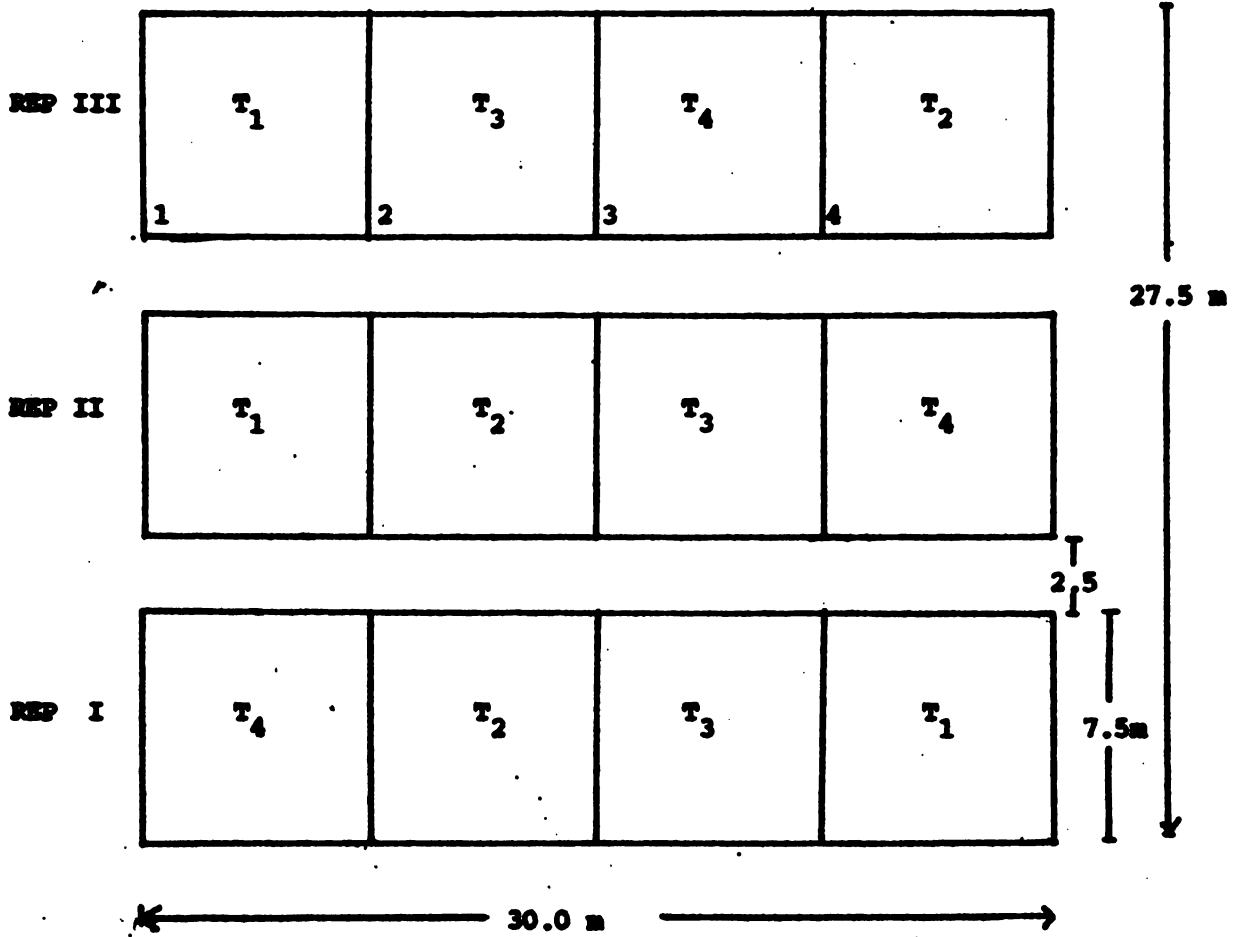
3. The third part of the document focuses on the role of technology in modern data analysis. It discusses how advanced analytics, machine learning, and artificial intelligence are being leveraged to uncover hidden patterns and predict future outcomes, enabling organizations to make more informed decisions.

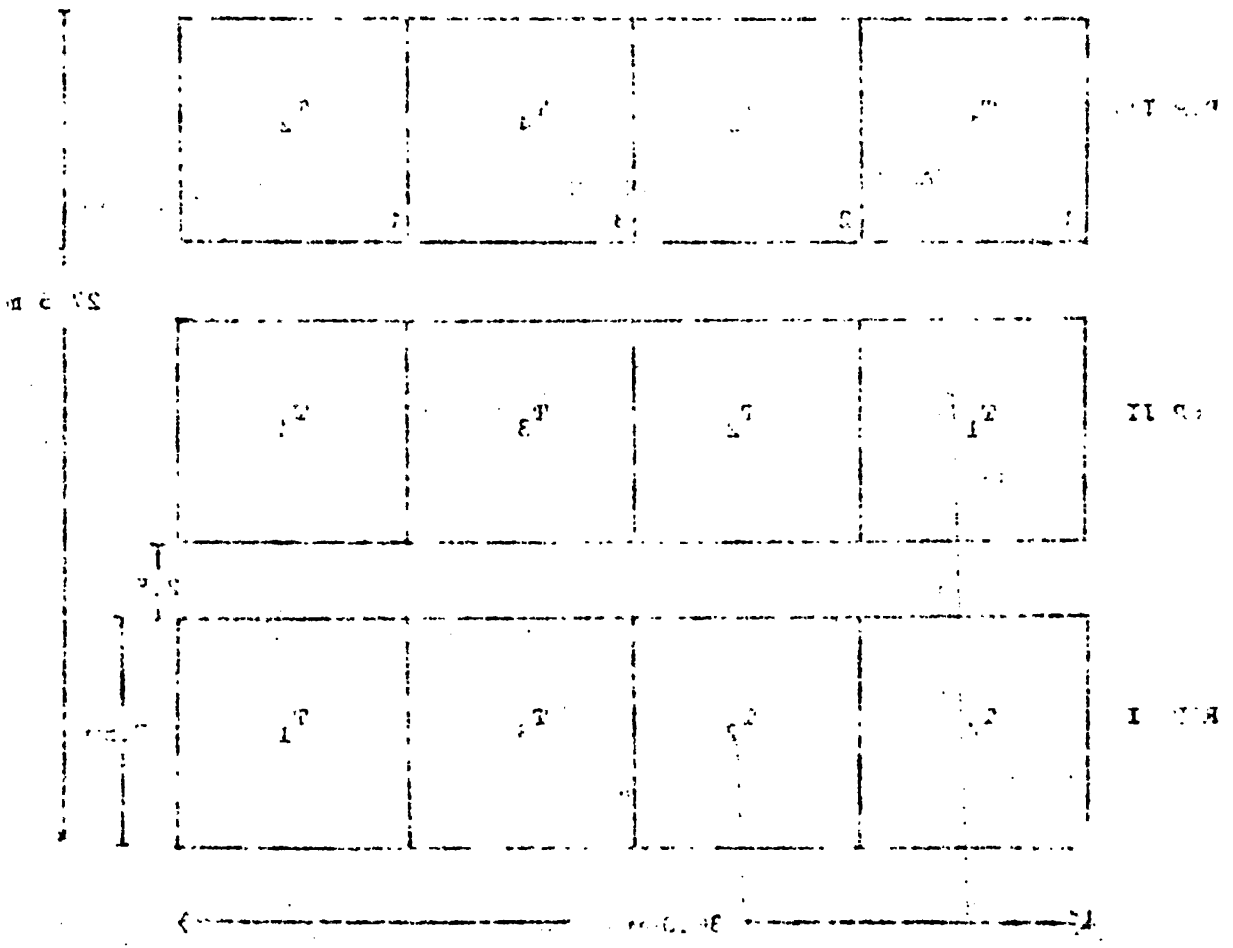
4. The fourth part of the document addresses the challenges associated with data security and privacy. It stresses the importance of implementing strong security protocols and encryption techniques to protect sensitive information from unauthorized access and breaches.

5. The fifth part of the document explores the ethical implications of data collection and analysis. It discusses the need for transparency in data processing, the right to privacy, and the potential for bias and discrimination in algorithmic decision-making.

6. The sixth part of the document provides a summary of the key findings and recommendations. It reiterates the importance of a data-driven approach and encourages organizations to continue investing in their data infrastructure and capabilities to stay competitive in a rapidly changing market.

CASSAVA MULTIPLE CROPPING SYSTEM, GOSHEN EXP. No. 8204





CASSAVA-PEANUTS-PIGEON PEAS MULTIPLE CROPPING (WITH PRUNING)

Objectives:

1. To identify the most productive and economically feasible of the four cropping systems under study in which cassava is the main component.
2. To quantify the effect on the cassava yield of pruning the young cassava canopy 7 months after planting.
3. To study the yield performance of short stature (height) crops such as peanuts, cowpeas and pigeon peas when intercropped with cassava whether pruned or not pruned.

Variables:

A = 4 Cropping Systems

- a₁. Cassava/Peanuts - Peanuts*
- a₂. Cassava/Peanuts - Pigeon Peas*
- a₃. Cassava/Cow Peas - Pigeon Peas*
- a₄. Cassava Monocrop

* Second intercrop to be planted between the cassava rows after harvesting the first associated crops (Peanuts and Cow Peas)

B = 2 levels of pruning cassava

- b₁. No pruning
- b₂. Pruning (7 months after planting)

Experimental Design:

Split plot with the cropping systems (4) arranged in a Randomized Complete Block design with 3 replications.

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Planting Material:

Cassava = Variety 69 (Local), Thetford Seed Farm
 Peanuts = Valencia type (Local), Thetford Seed Farm
 Cow Peas = African Red (Local), Thetford Seed Farm
 Pigeon Peas = UW 17 (Local), R & D MINAG

Spacing:

Cassava = 1.5 x 1.5 m
 Peanuts = 30 x 10cm
 Cow Peas = 30 x 10cm
 Pigeon Peas = 45 x 30cm

Area:

1275 m²

Plot Size:

Sub plots = 7.5 x 6.75 m
 Main plots = 7.5 x 13.5 m

Treatment Description and Plot Randomization

No. of Treatments	Description*	Plot Number		
		I	II	III
1	Cassava/Peanuts-peanuts, w/o pruning	6	4	3
2	Cassava/Peanuts-pigeon peas, "	1	6	2
3	Cassava/Cow peas-pigeon peas, "	7	8	8
4	Cassava monocrop, "	4	2	5
5	Cassava/Peanuts-peanuts with pruning	3	5	6
6	Cassava/Peanuts-pigeon peas, "	8	3	7
7	Cassava/Cow peas-pigeon peas, "	2	1	1
8	Cassava monocrop, "	5	7	4

* The cassava plants in treatments 5-8 will be pruned after the first intercrop is harvested and when the cassava is about 7 months old. Only the young canopy which is not recommended for planting material will be pruned.

1. Introduction

2. Methodology

3. Results

4. Discussion

5. Conclusion

6. References

7. Appendix

8. Figures

9. Tables

10. Glossary

11. Index

12. Bibliography

13. Notes

14. Acknowledgements

15. Author's address

16. Correspondence

17. Contact information

18. E-mail

19. Phone

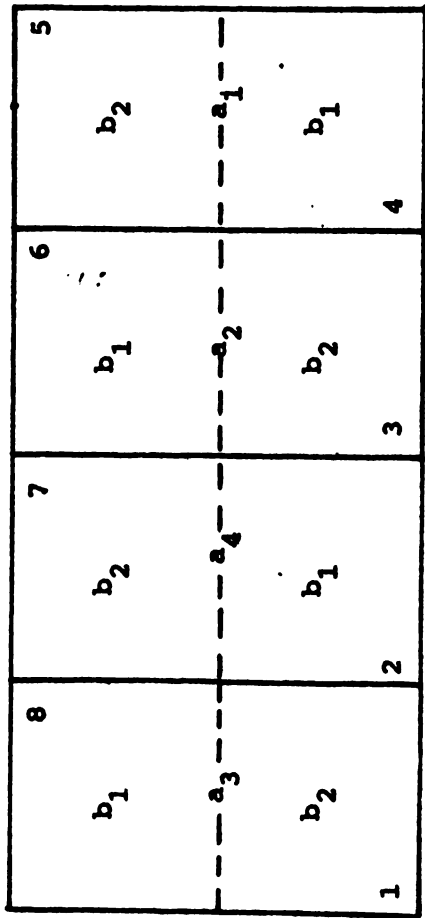
20. Fax

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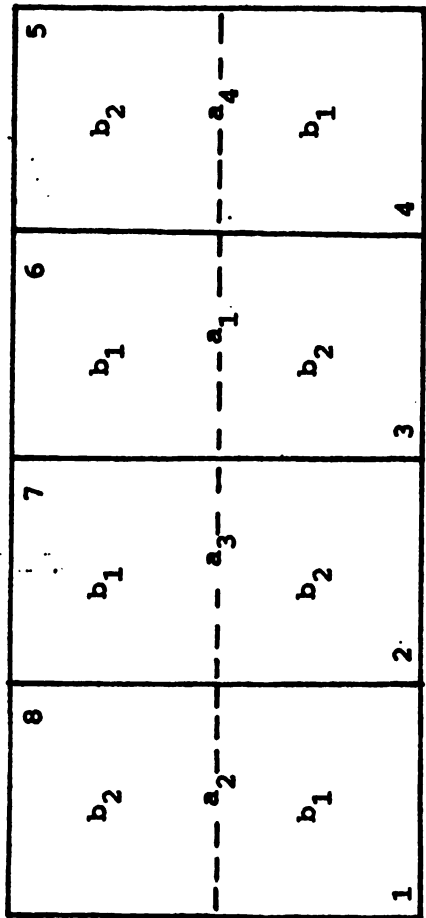
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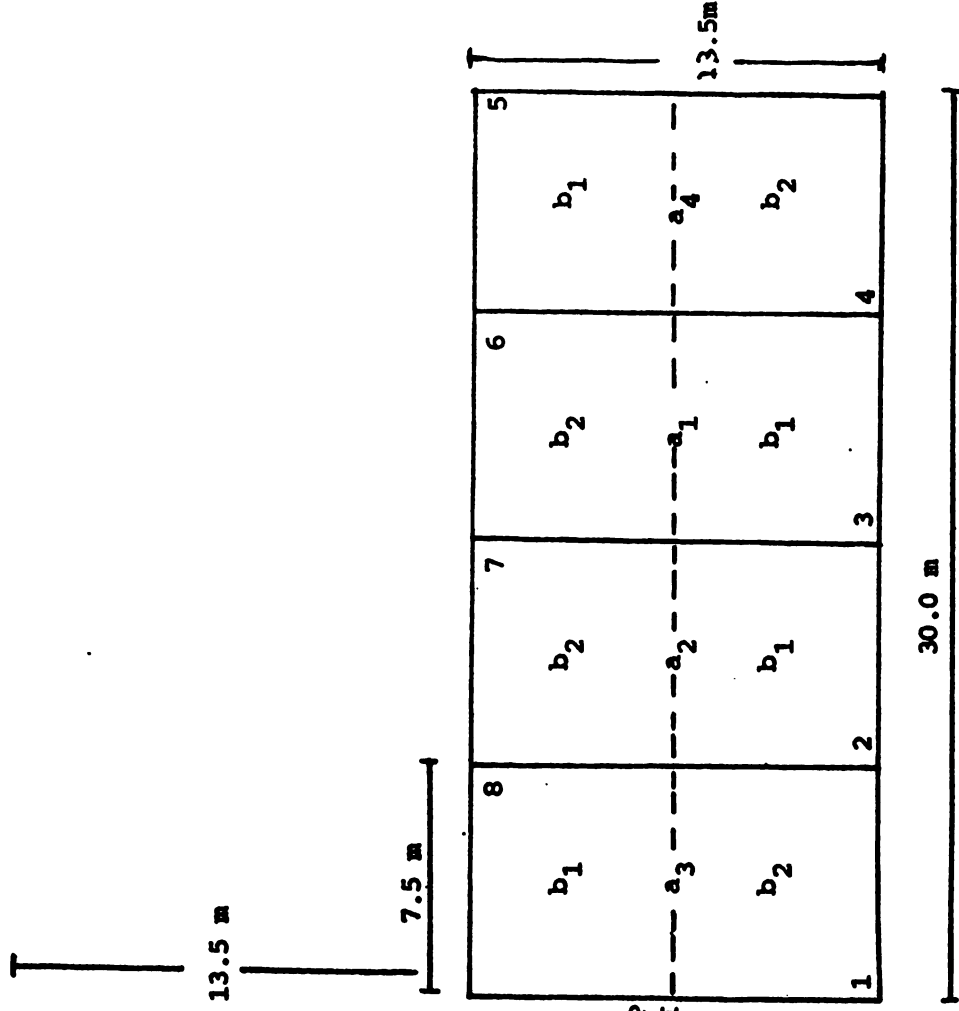
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EP I



EP II



REP III

1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes that proper record-keeping is essential for ensuring transparency and accountability in financial operations. This section also highlights the role of internal controls in preventing fraud and errors.

2. The second part of the document focuses on the implementation of robust risk management strategies. It outlines the need for a comprehensive risk assessment process that identifies potential threats and vulnerabilities. The document stresses the importance of developing effective mitigation plans and regularly reviewing and updating risk management frameworks to address emerging risks.

3. The third part of the document addresses the critical role of communication and collaboration in achieving organizational goals. It emphasizes the need for clear communication channels and regular reporting to ensure that all stakeholders are informed and aligned. The document also highlights the importance of fostering a culture of transparency and open communication within the organization.

4. The fourth part of the document discusses the importance of continuous improvement and innovation. It emphasizes the need for organizations to regularly evaluate their performance and identify areas for improvement. The document also highlights the importance of investing in research and development to drive innovation and stay competitive in a rapidly changing market.

5. The fifth part of the document discusses the importance of maintaining strong relationships with external stakeholders, including customers, suppliers, and regulatory bodies. It emphasizes the need for transparency and open communication with these stakeholders to build trust and ensure compliance with relevant regulations. The document also highlights the importance of regularly reviewing and updating policies and procedures to ensure they remain relevant and effective.

GOSHEN, SAINT ELIZABETH, 1982

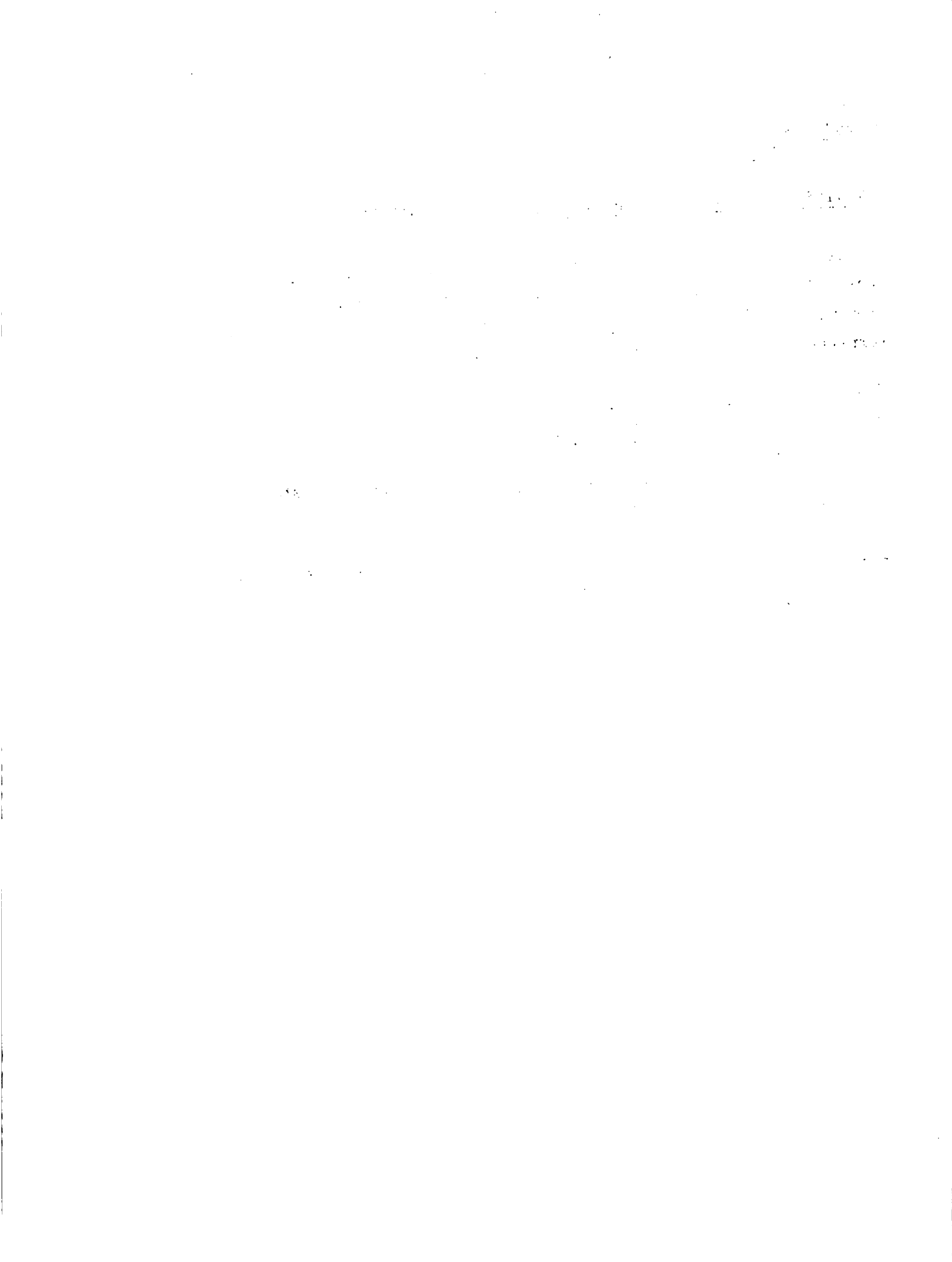
COMPLEMENTARY STUDIES TO THE MULTIPLE CROPPING SYSTEMS

Monocrops of the cassava intercrops, namely peanuts, cow peas, pigeon peas and sorghum, are planted to compare their performance as a solo crop under the same conditions of the multiple cropping systems. The fertilization rates and crop care are identical in the two cases.

Observations on yield and crop performance during the vegetative cycle will be taken from three plots per specie.

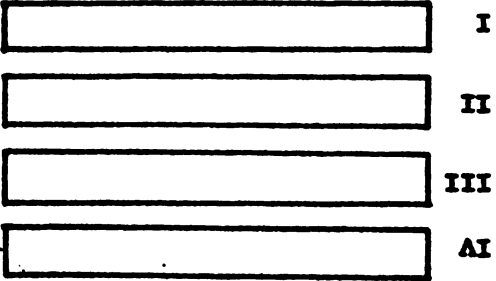
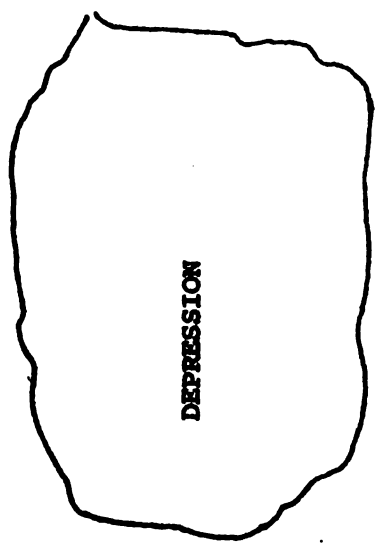
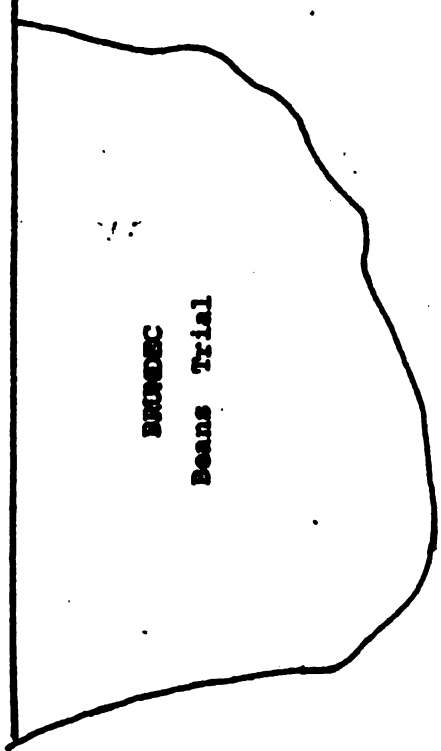
Spacing: the same distances used in the multiple cropping systems are in effect for the monocrops.

Plot Size: Peanuts, Cow peas and Pigeon peas have a plot size of 3.0 x 3.0 m. The sorghum plots are 5.6 x 5.0 m long.

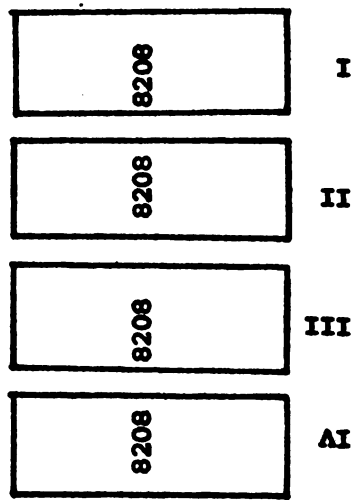


DIKE ROAD

BRUNDEC
Beans Trial

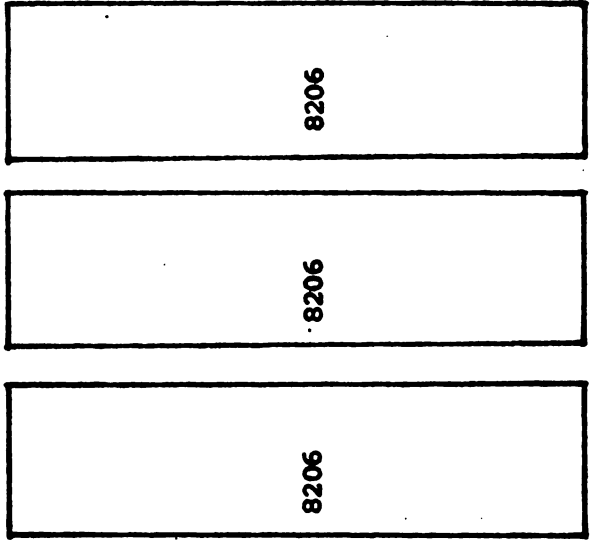


Peanuts, Vars #
Densities

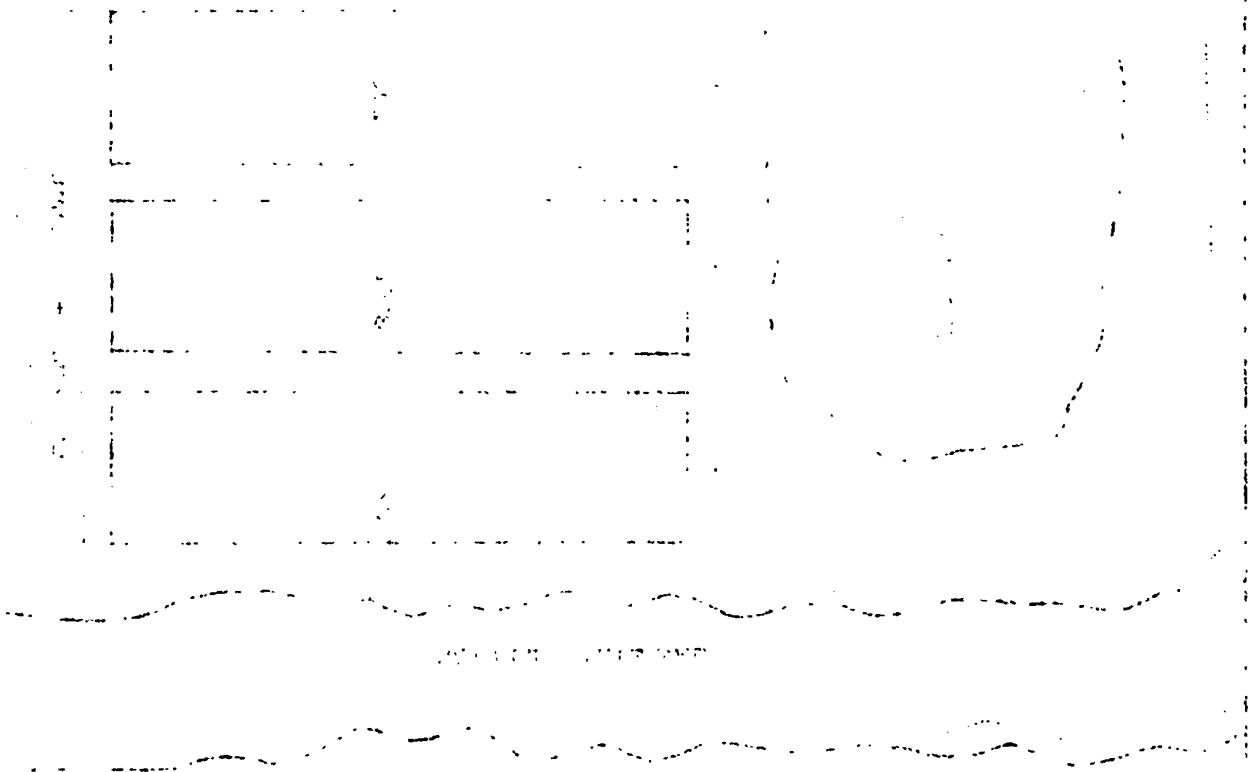


Peanuts, Vars # Gypsum

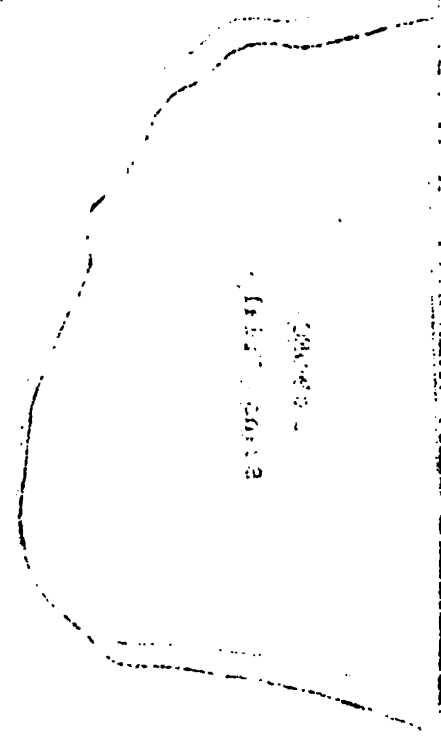
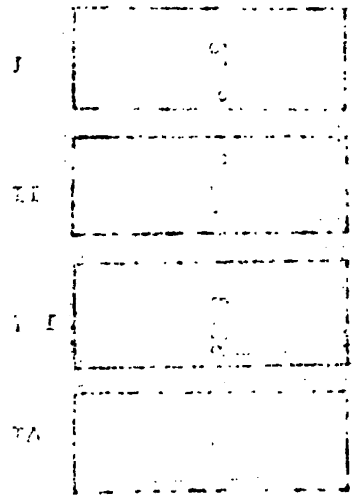
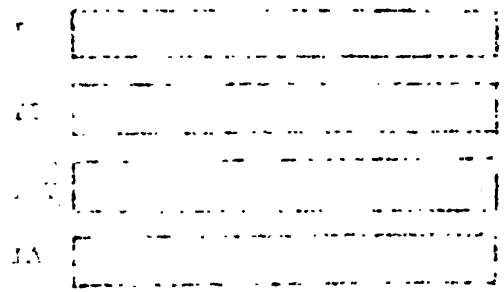
NATURAL INTERVAL



Cassava + Peanuts



DEPARTMENT OF THE ARMY
 ENGINEERING CENTER
 FORT BELLEVILLE, ILLINOIS



CASSAVA (SPACING)/PEANUTS MULTIPLE CROPPING

Objectives:

1. To identify the optimum distance for the cassava variety No. C-5 when grown in association with peanuts.
2. To quantify the effect, on the cassava yield, of pruning the young cassava canopy 7 months after planting.
3. To study the yield performance of a short stature (height) crop such as peanuts when used as a second intercrop whether the cassava has been pruned or not.

Variables:

- A = Five cassava spacings intercropped with one peanut variety
- a₁. 0.6 x 0.6 m + 2.0 m skip (double row)
 - a₂. 1.5 x 1.0 m
 - a₃. 1.5 x 1.5 m (the local standard)
 - a₄. 2.0 x 1.0 m
 - a₅. 2.0 x 1.5 m

note: The cassava population goes from a lower 4000 plants (2.0 x 1.5 m) to a higher 11,556 plants per hectare (0.6 x 0.6 m). Peanuts will be planted to fill all open spaces between the cassava rows which allows 4 or 6 peanut rows depending on which of the two (1.5 or 2.0 m) row spaces are used. Peanuts are planted at a distance of 30 x 10cm.

- B = 2 levels of pruning cassava
- b₁. No pruning
 - b₂. Pruning (7 months after planting)

Experimental Design:

Split plot with the cassava spacing (5) arranged in a Randomized Complete Block design with 3 replications.

Planting Material:

Cassava = Variety C-5 (Early introduction from Colombia) provided by the Thetford Seed Farm

Peanuts = Valencia type (local), Thetford Seed Farm

Spacing:

Cassava = See above description (variable)

Peanuts = 30 x 10cm

Area:

1377.4 m²

Plot Size:

Sub plots = 8.0 x 5.25 m

Main plots = 8.0 x 10.50 m

Treatment Description and Plot Randomization

No. of Treatments	Description*	Plot Number		
		I	II	III
1	a ₁ b ₁	2	2	6
2	a ₁ b ₂	9	9	5
3	a ₂ b ₁	4	7	3
4	a ₂ b ₂	7	4	8
5	a ₃ b ₁	3	6	4
6	a ₃ b ₂	8	5	7
7	a ₄ b ₁	10	3	2
8	a ₄ b ₂	1	8	9
9	a ₅ b ₁	6	1	1
10	a ₅ b ₂	5	10	10

* Description

A = Cassava spacing

$a_1 = 0.6 \times 0.6 \text{ m} + 2.0 \text{ m skip (double row)}$

$a_2 = 1.5 \times 1.0 \text{ m}$

$a_3 = 1.5 \times 1.5 \text{ m}$

$a_4 = 2.0 \times 1.0 \text{ m}$

$a_5 = 2.0 \times 1.5 \text{ m}$

B = Pruning of cassava

$b_1 = \text{No pruning}$

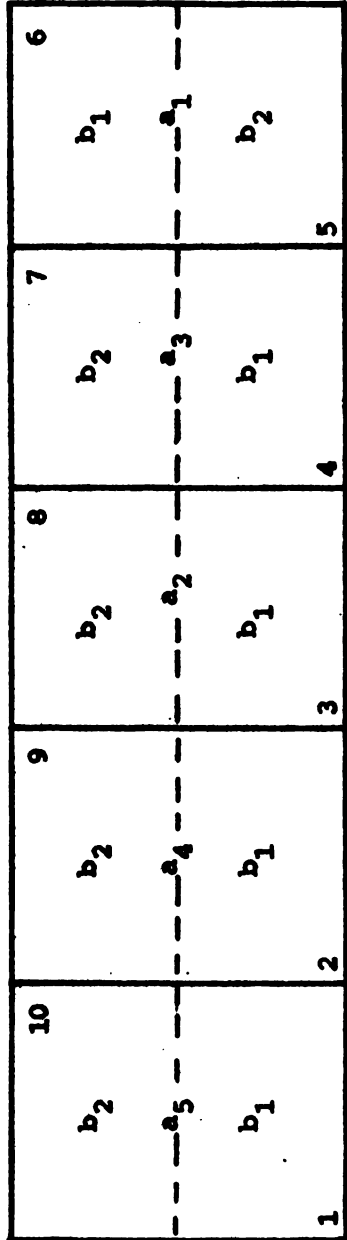
$b_2 = \text{Pruning (7 months after planting)}$

Only the young canopy which is not good for planting material will be pruned.

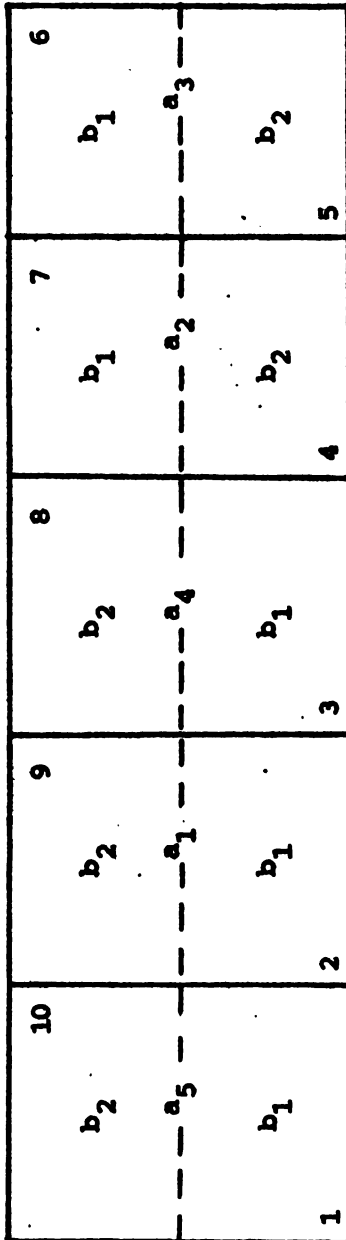


35.5 m

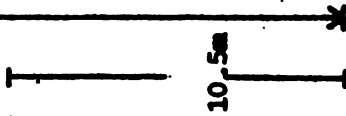
REP. III



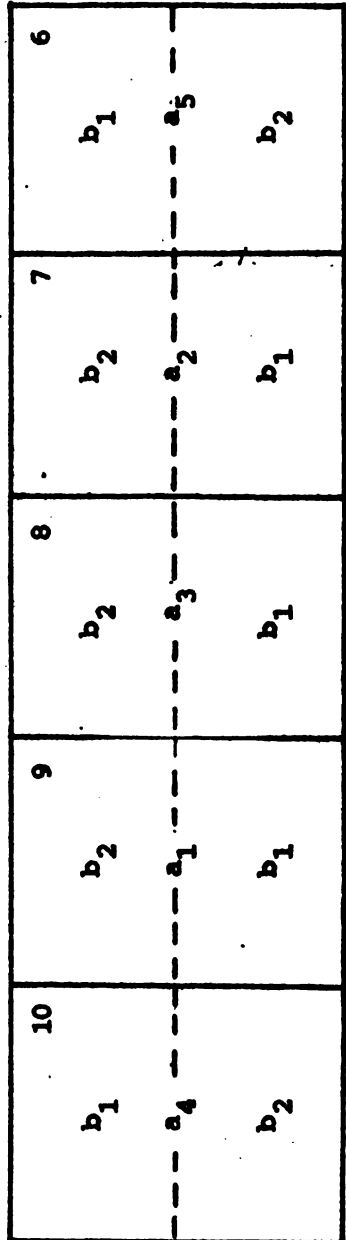
REP. II



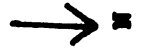
REP. I



10.5m



38.8m



Date	Description	Amount
1901	Jan 1	100.00
	Feb 1	200.00
	Mar 1	300.00
	Apr 1	400.00
	May 1	500.00
	Jun 1	600.00
	Jul 1	700.00
	Aug 1	800.00
	Sep 1	900.00
	Oct 1	1000.00
	Nov 1	1100.00
	Dec 1	1200.00
	Total	12000.00

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PEANUTS, VARIETIES X PLANT DENSITIESObjectives:

1. To study the yield response of two peanut varieties under five different plant spacing arrangements.
2. To analyse the combined effects of different row and plant spacing for two peanut varieties.

Variables:

A = 2 varieties, local and NK-62 (Guyana)

B = 3 Row Spacing

C = 2 Plant spacing

Experimental Design:

A 2 x 3 x 2 factorial arrangement in a Randomized Complete Block design with 4 replications.

Planting Material:

- Peanuts = 1. Valencia type (local), Thetford Seed Farm
 2. NK-62 (Valencia), Ministry of Agriculture, Guyana

Treatment Description and Plot Randomization

No. of Treatment	Description*	Plot Number			
		I	II	III	IV
1	a ₁ b ₁ c ₁	11	2	1	1
2	a ₁ b ₁ c ₂	12	8	5	3
3**	a ₁ b ₂ c ₁	8**	7**	10**	10**
4**	a ₁ b ₂ c ₂	5**	3**	11**	11**
5	a ₁ b ₃ c ₁	7	1	6	4
6	a ₁ b ₃ c ₂	6	12	9	8
7	a ₂ b ₁ c ₁	2	5	7	7
8	a ₂ b ₁ c ₂	4	10	4	9
9**	a ₂ b ₂ c ₁	10**	6**	3**	12**
10**	a ₂ b ₂ c ₂	9**	4**	8**	6**
11	a ₂ b ₃ c ₁	3	11	12	5
12	a ₂ b ₃ c ₂	1	9	2	2



*A = Peanut varieties

a_1 = Local variety

a_2 = AK-62 (Guyana)

B = Row Distance

b_1 = 30cm

b_2 = 45cm

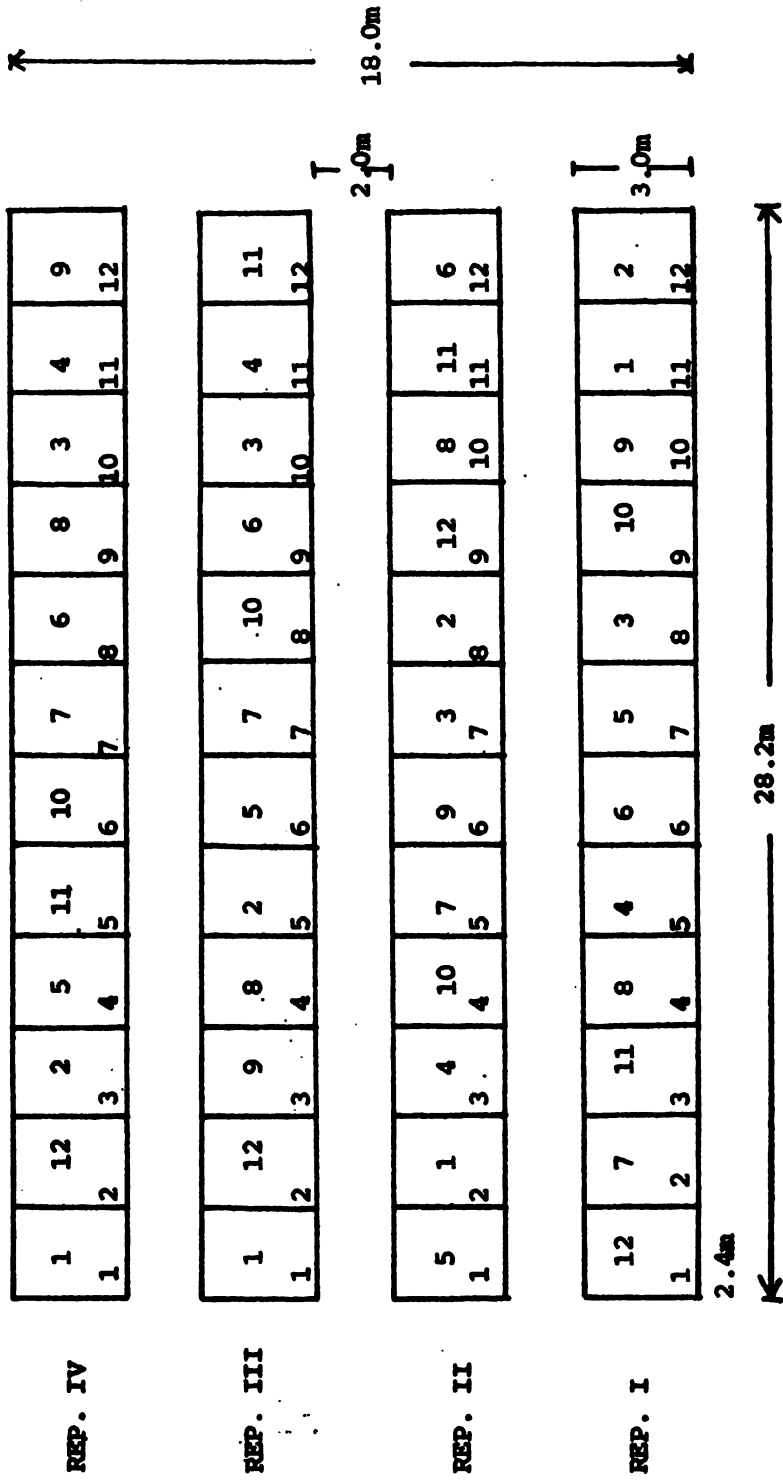
b_3 = 60cm

C = Plant Distance

c_1 = 10cm

c_2 = 15cm

** These plots are only 2.25 m wide instead of 2.40 m to accommodate an exact number of rows. None the less all plots have the same Experimental Unit, 1.8 x 3.0 m.



100

1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16
17	18	19	20
21	22	23	24
25	26	27	28
29	30	31	32
33	34	35	36
37	38	39	40
41	42	43	44
45	46	47	48
49	50	51	52
53	54	55	56
57	58	59	60
61	62	63	64
65	66	67	68
69	70	71	72
73	74	75	76
77	78	79	80
81	82	83	84
85	86	87	88
89	90	91	92
93	94	95	96
97	98	99	100

PEANUTS, GYPSUM LEVELS * VARIETIES

Objectives:

1. To study the yield response and the seed quality of two Valencia type peanut varieties grown under five different levels of gypsum (CaSO_4) application before pegging time.

Variables:

- A = 5 levels of Gypsum (CaSO_4)
B = 2 peanut varieties (local and NK-62)

Experimental Design:

Split plot with the gypsum levels (MP) arranged in a Randomized Complete Block design with 4 replications.

Spacing:

45cm between rows and 10cm between plants.

Area:

576 m²

Plot Size:

3.6 m wide x 6.0 m long (MP)

3.6 m wide x 3.0 m long (SP)

Gypsum Levels:

- | | | |
|----|-----------|-----------------|
| 1. | 0 | (0) |
| 2. | 200 kg/ha | (468 grs/plot) |
| 3. | 400 kg/ha | (936 grs/plot) |
| 4. | 600 kg/ha | (1404 grs/plot) |
| 5. | 800 kg/ha | (1872 grs/plot) |

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Treatment Description and Plot Randomization

No. of Treatments	Description*	Plot Number			
		I	II	III	IV
1	a ₁ b ₁	8	6	2	5
2	a ₁ b ₂	3	5	9	6
3	a ₂ b ₁	1	9	8	4
4	a ₂ b ₂	10	2	3	7
5	a ₃ b ₁	4	1	5	1
6	a ₃ b ₂	7	10	6	10
7	a ₄ b ₁	6	4	10	3
8	a ₄ b ₂	5	7	1	8
9	a ₅ b ₁	2	3	7	9
10	a ₅ b ₂	9	8	4	2

*Split plot design

A = Gypsum levels (CaSO₄)

a₁ = 0

a₂ = 200 kg/ha

a₃ = 400 kg/ha

a₄ = 600 kg/ha

a₅ = 800 kg/ha

B = 2 peanut varieties

b₁ = local variety

b₂ = AK-62 (Guyana)

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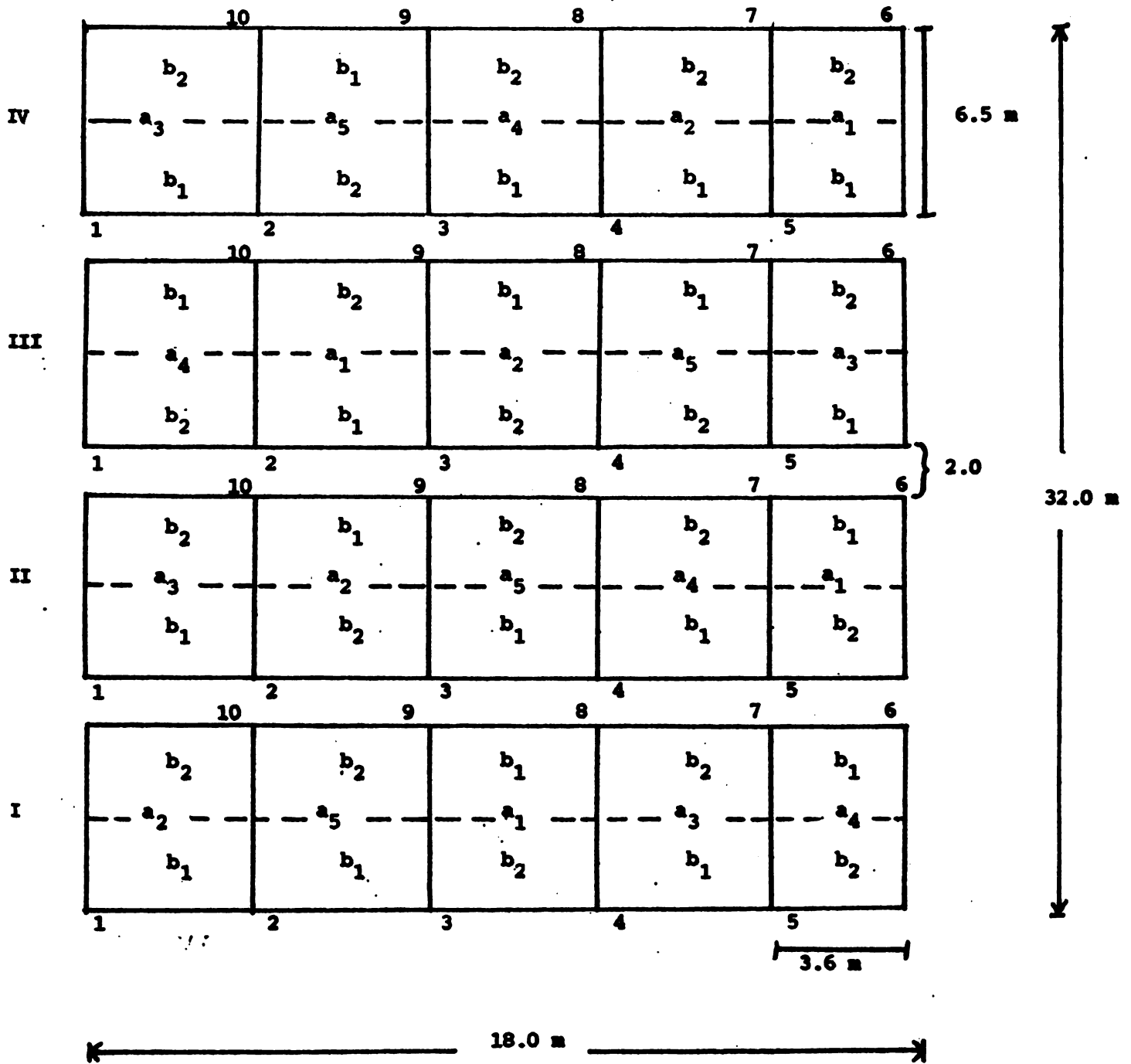
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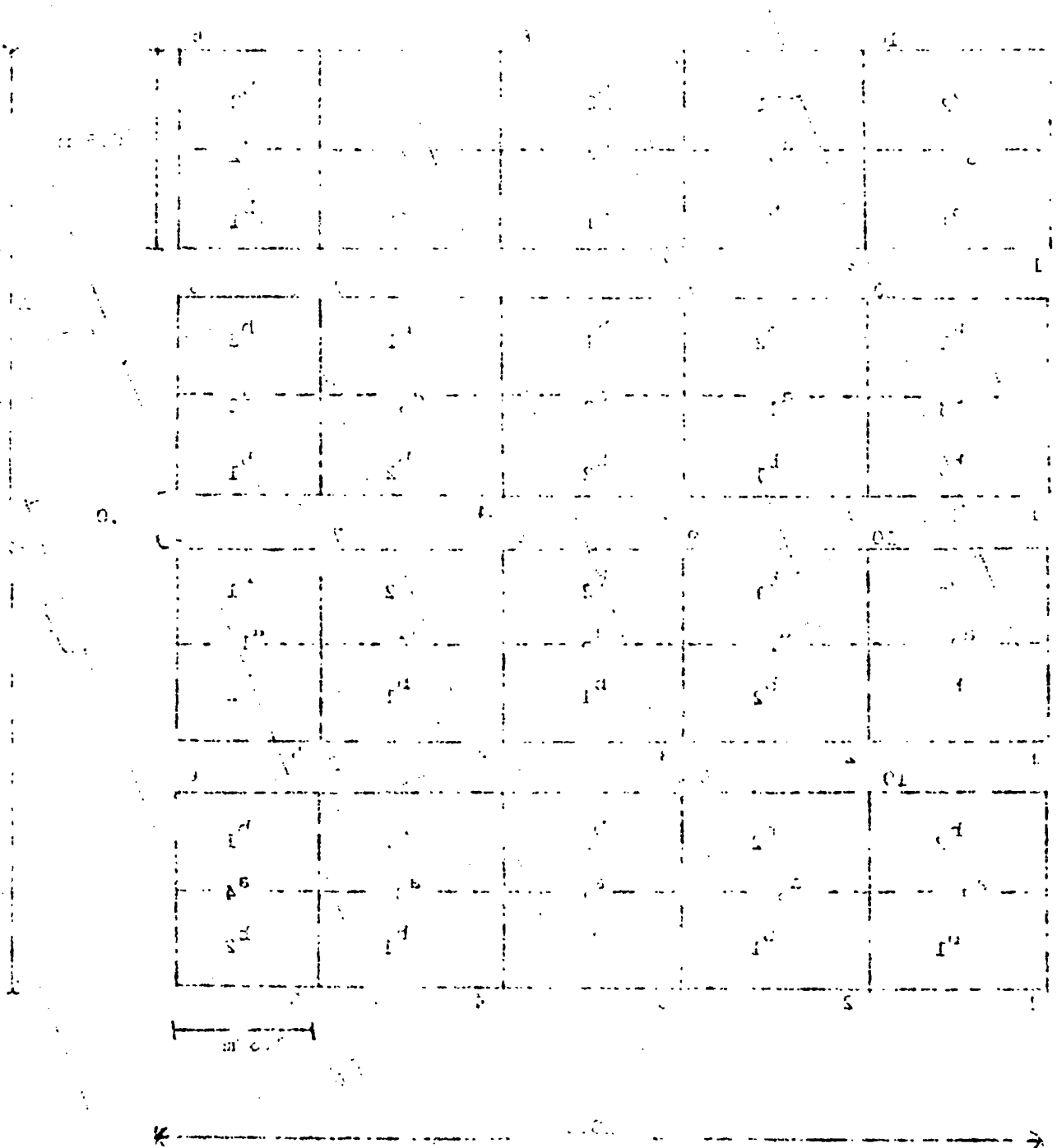
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Collection of papers of the Office of IICA in Jamaica

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- No. I - 1 Fritz Andrew Sibbles, "Basic Agricultural Information on Jamaica Internal Document of Work", January 1977
- No. I - 2 Yvonne Lake, "Agricultural Planning in Jamaica", June 1977
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- No. I - 6 Irving Johnson, Marie Strachan, Joseph Johnson, "Land Settlement in Jamaica", December 1977
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- No. I - 8 Jose Emilio Araujo, "The Communal Enterprise", February 1980
- No. I - 9 IICA and MOAJ, "Hillside Farming Technology - Intensive Short Course", Vols. I and II, March 1978
- No. I - 10 Jose Emilio Araujo, "The Theory Behind the Community Enterprise - Seminar in Jamaica", March 1978
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- No. I - 14 R. C. E. McDonald, A. H. Wahab, "Fertility Assessment of Newly Terraced Hillside Soils Using the Microplot Technique - the Allsides Case Study", 1978
- No. I - 15 IICA - IDB, "Course in Preparation and Evaluation of Agricultural Projects", Vols. I and II, November 1977
- No. I - 16 Neville Farquaharson, "Production and Marketing of Dasheen in Allsides and Christiana", June 1978

1978 - 1979

- No. II - 1 O. Arboleda-Sepulveda (IICA-CIDIA), "Agricultural Documentation and Information Network in Jamaica", September 1978
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1979 - 1980

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- No. III - 4 IICA/Jamaica Staff, "Agro-Socio-Economic Sample Survey of Allsides - Trelawny, Jamaica", September 1979

The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that every entry should be supported by a valid receipt or invoice. This not only helps in tracking expenses but also ensures compliance with tax regulations.

In the second section, the author provides a detailed breakdown of the monthly budget. It includes categories such as housing, utilities, food, and transportation. Each category is further divided into sub-items, allowing for a granular view of where the money is being spent.

The third section focuses on the analysis of the budget data. It compares the actual spending against the planned budget for each month. This comparison helps in identifying areas where spending has exceeded the budget and where it has fallen short.

The fourth section discusses the implications of the budget analysis. It highlights the need for adjustments in spending habits to stay within the budget. The author suggests strategies such as reducing discretionary spending and prioritizing essential expenses.

Finally, the document concludes with a summary of the key findings and recommendations. It reiterates the importance of regular budget reviews and the use of accurate records to make informed financial decisions.

- No. III - 5 IICA-MOAJ, "An Approach to Agricultural Settlement of Hilly Lands", October 1979
- No. III - 6 IICA-MOAJ, "Tree Crops of Economic Importance to Hillside Farms in Jamaica", October 1979
- No. III - 7 Canute McLean, "Production and Marketing of Peanuts", November 1979

1980

- No. IV - 1 Joseph Johnson, "Production and Marketing of Red Peas in the Hilly Areas of Jamaica", January 1980
- No. IV - 2 Lyn Snuffer, "Rural Women: An Annotated Caribbean Bibliography with special reference to Jamaica", January 1980
- No. IV - 3 Vincent Campbell, Abdul Wahab, Howard Murray, "Response of Peanut (Arachis hypogaea L.) on a Newly Terraced Ultisol in Jamaica", January 1980
- No. IV - 4 P. Aitken, A. Wahab, I. Johnson, A. Sahni, "Agro-Socio-Economic Survey - Pilot Hillside Agricultural Project 'PHILAGRIP' Southern Trelawny", February 1980
- No. IV - 5 Glenys H. Barker, "Bibliography of Literature relating to Research and Development in the Agricultural Sector of Jamaica 1959 - 1979", March 1980
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- No. IV - 9 MOJ/IICA/CARDI, Fruit Trees Seminar - "Research & Development of Fruit Trees", June 1980
- No. IV - 10 Henry Lancelot, "Traditional Systems in Hillside Farming, Upper Trelawny, Jamaica", June 1980

1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes that proper record-keeping is essential for transparency and accountability, particularly in financial matters.

2. The second part outlines the various methods and tools used to collect and analyze data. This includes the use of surveys, interviews, and statistical software to ensure that the information gathered is reliable and valid.

3. The third part focuses on the ethical considerations surrounding data collection and analysis. It highlights the need to protect individual privacy and to use data responsibly, avoiding any potential for misuse or discrimination.

4. The fourth part describes the process of interpreting the results of the data analysis. It discusses how to identify trends, patterns, and correlations, and how to communicate these findings effectively to the relevant stakeholders.

5. The fifth part concludes by summarizing the key findings and recommendations of the study. It provides a clear overview of the research objectives, the methodology used, and the implications of the results for future research and practice.

- No. IV - 11 IICA/Jamaica, "Pilot Hillside Agricultural Project", (PHILAGRIP), Project Document. Vols. I, II and III, June 1980
- No. IV - 12 A. Wahab, I. Johnson, P. Aitken, H. Murray and H. Stennett, "Highlights of the Pilot Hillside Agricultural Project at Allsides", July 1980
- No. IV - 13 I. Johnson, A. Wahab, P. Aitken, H. Payne, "Benchmark for a Project Profile for Developing a Peanut Industry in Jamaica", July 1980
- No. IV - 14 P. Aitken, A. Wahab, I. Johnson, "The Allsides Post Peasant", August 1980
- No. IV - 15 Norma Munguia, Percy Aitken, Abdul Wahab, Irving Johnson, "Salt Extraction by Solar Energy", A Mini-project, September 1980
- No. IV - 16 Abdul H. Wahab, Percy Aitken-Soux, Irving E. Johnson and Howard Murray, "The Allsides Project in Jamaica - Developmental Potentials of Hillside Agriculture", September 1980
- No. IV - 17 P. Aitken, A. Wahab, I. Johnson, A. Sahney and N. Munguia, "Rural Women Survey", Vols. I, II and III, October 1980
- No. IV - 18 P. Aitken, I. E. Johnson, A. Wahab, "Assessment of Employment Among Small Hillside Farmers of Jamaica", November 1980
- No. IV - 19 IICA/Jamaica "Pilot Hillside Agricultural Project", (PHILAGRIP), Final Project Document. October 1980.
- No. IV - 20 P. Aitken, A. Wahab, I. E. Johnson, Bo-Myeong Woo, "IICA Evaluation of the First Phase FSB Allsides Project", (Internal Document of Work), November 1980
- No. IV - 21 MINAG/IICA/CARDI - "Seminar on Multiple Cropping", December 1980
- 1981
- No. V - 1 N. Munguia, P. Aitken, A. Wahab, I. Johnson, "Smoke Curing of Fish (as a household industry in Rural Jamaica)", January 1981

1. The first part of the document discusses the importance of maintaining accurate records of all transactions.

2. It is essential to ensure that all entries are supported by appropriate documentation and receipts.

3. Regular audits should be conducted to verify the accuracy of the records and to identify any discrepancies.

4. The second part of the document outlines the procedures for handling cash and credit transactions.

5. Cash transactions should be recorded immediately and accurately, with a clear indication of the source and purpose.

6. Credit transactions should be recorded in a timely manner, and the terms of the credit should be clearly stated.

7. The third part of the document provides guidelines for the treatment of expenses and deductions.

8. Expenses should be recorded in a systematic and organized manner, with a clear indication of the category and amount.

9. Deductions should be claimed only if they are directly related to the business and are supported by appropriate documentation.

10. The fourth part of the document discusses the requirements for filing tax returns and the consequences of non-compliance.

11. Tax returns should be filed on time and accurately, with all required information and supporting documentation.

12. Failure to file tax returns or to pay taxes on time can result in penalties and interest charges.

13. The fifth part of the document provides information on the various tax credits and deductions available to businesses.

14. These credits and deductions can significantly reduce the tax liability of a business, but they must be claimed correctly.

15. The final part of the document offers advice on how to choose a tax professional and how to work effectively with one.

16. It is important to select a tax professional who is qualified and experienced in handling business tax matters.

17. Working with a tax professional can help ensure that a business is taking full advantage of all available tax benefits.

- No. V - 2 P. Aitken, A. Wahab, I. Johnson, "Under-employment - It's Relation to the Agricultural Sector and Considerations for its Management", January 1981
- No. V - 3 D. D. Henry, J. R. Gayle, "The Culture of Grafted Pimento (as spice crop for Allsides, Jamaica)", January 1981
- No. V - 4 Abdul H. Wahab, Noel Singh, "Agricultural Research in Jamaica", February 1981
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- No. V - 6 P. Aitken-Soux, A. H. Wahab, I. E. Johnson, "Overview of Agricultural Development in Jamaica", May 1981
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- No. V - 8 Abdul Wahab, Percy Aitken-Soux, Irving Johnson, Bo-Myeong Woo, Howard Murray, Joseph Dehaney, "The Experiences of Jamaica in the Management of Agricultural Production on Hillsides", July 1981
- No. V - 9 Dave Hutton, Abdul Wahab, Howard Murray, "Yield Response of Yellow Yam (Dioscorea Cayenensis) After Disinfesting Planting Material of Pratylenchus Coffeae", July 1981
- No. V - 10 Elaine Montague-Gordon, Abdul H. Wahab, Joseph Dehaney and Audrey Wright, "Performance of Eleven Varieties of Dry Beans (Phaseolus vulgaris) Over Two Successive Seasons on the Hillsides of Jamaica", August 1981
- No. V - 11 Dave G. Hutton, Abdul H. Wahab, "Position Paper on Root Crops in Jamaica", August 1981
- No. V - 12 Percy Aitken-Soux, Abdul H. Wahab, Irving E. Johnson, "Technical Assistance for the English Speaking Caribbean (Considerations for an IICA Strategy)" (Internal Document of Work), September 1981
- No. V - 13 Bo-Myeong Woo, Abdul H. Wahab, Joseph Dehaney, "Crop Production on Hillsides using non-Bench Terracing Alternative Measures for Soil Conservation (first year's results of the Olive River Soil Conservation studies)", September 1981

The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that every entry should be supported by a valid receipt or invoice. This not only helps in tracking expenses but also ensures compliance with tax regulations.

In the second section, the author provides a detailed breakdown of the monthly budget. It includes categories for housing, utilities, food, and entertainment. Each category is further divided into sub-items, such as rent, electricity, groceries, and dining out. This level of detail allows for a clear understanding of where the money is being spent.

The third section focuses on the analysis of the budget. It compares the actual spending against the planned budget for each month. This comparison helps in identifying areas where spending has exceeded the budget and where it has been kept within limits.

Finally, the document concludes with a summary of the overall financial performance. It highlights the total amount spent and the remaining balance. The author also provides some recommendations for future budgeting, such as setting aside a portion of the income for savings and reducing unnecessary expenses.

- No. V - 14 Abdul H. Wahab, Percy Aitken-Soux, Irving E. Johnson, Bo-Myeong Woo, Howard Murray and Joseph Dehaney, "Agricultural Production on Hillsides - the Allsides Project Case Study", September 1981
- No. V - 15 D. G. Hutton, A. H. Wahab and J. Dehaney, "Investigating Critical Levels of Dry Rotting of Yellow Yam (*Dioscorea Cayenensis*) Planting Material, the Benefits of Disinfesting the Heads of *Pratylenchus Coffeae* and of After-Planting Nematicide Treatments", September 1981
- No. V - 16 D. G. Hutton, A. H. Wahab, H. Murray and J. Dehaney, "Critical Levels of Dry Rotting of Yellow Yam (*Dioscorea Cayenensis*) Planting Material and Yield Responses After Disinfesting Heads of *Pratylenchus Coffeae* and After Post-Plant Nematicide Applications", September 1981
- No. V - 17 E. Ayer and J. Reyes, "Seminar on Mediterranean Fruit Fly", September 30, 1981
- No. V - 18 Bo-Myeong Woo, "Erosion Control Works in Korea", October 1981
- No. V - 19 Irving E. Johnson and Percy Aitken-Soux, "Country Level Action Plan (CLAP)" (Third Revision - Internal Document of Work), October 1981
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- No. V - 23 Humberto Pizarro, "Organization, Operations and Maintenance of the Irrigation System in the BRUMDEC Project", November 1981
- No. V - 24 Humberto Pizarro, "Basic Information for Planning Water Management in the BRUMDEC Project", November 1981

1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes that this is crucial for ensuring transparency and accountability in the organization's operations.

2. The second part of the document outlines the various methods and tools used to collect and analyze data. It highlights the need for consistent data collection procedures and the use of advanced analytical techniques to derive meaningful insights from the data.

3. The third part of the document focuses on the role of technology in data management and analysis. It discusses how modern software solutions can streamline data collection, storage, and analysis processes, thereby improving efficiency and accuracy.

4. The fourth part of the document addresses the challenges associated with data management, such as data quality, security, and privacy. It provides strategies to mitigate these risks and ensure that the data remains reliable and secure throughout its lifecycle.

5. The fifth part of the document discusses the importance of data governance and the role of a data governance framework in ensuring that data is managed in a consistent and compliant manner.

6. The sixth part of the document explores the various applications of data analysis in different industries, such as healthcare, finance, and retail. It illustrates how data-driven insights can be used to optimize operations, improve customer experiences, and drive business growth.

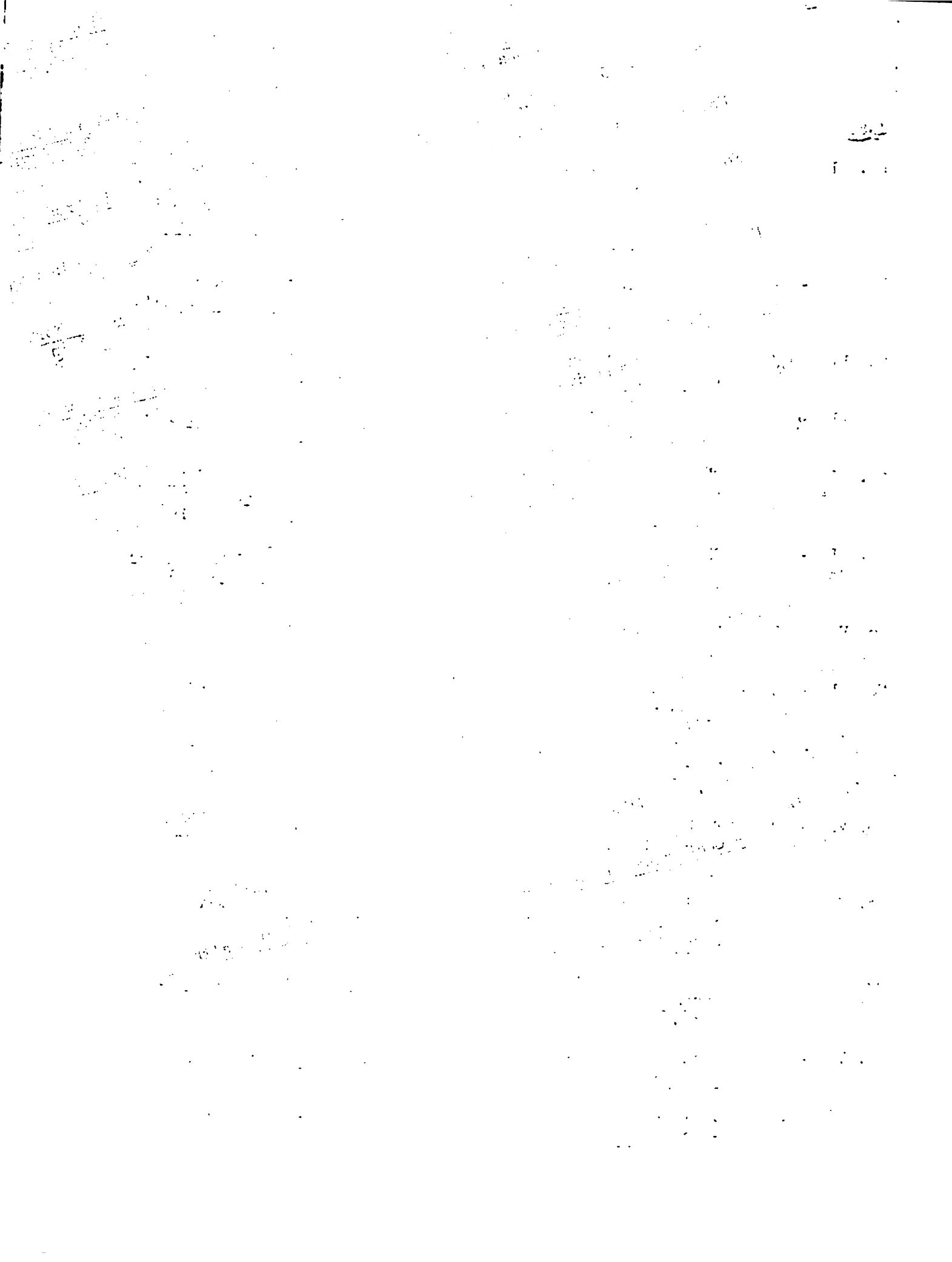
7. The seventh part of the document discusses the future of data management and analysis, highlighting emerging trends such as artificial intelligence, machine learning, and big data. It suggests that these technologies will continue to revolutionize the way data is handled and analyzed.

8. The eighth part of the document provides a summary of the key points discussed throughout the document, emphasizing the importance of a data-driven approach in achieving organizational success.

9. The final part of the document offers concluding remarks and a call to action, encouraging organizations to embrace data as a strategic asset and to invest in the necessary resources and capabilities to harness its full potential.

1982

- No. VI - 1 Vivian Chin, "Rice Research and Production in the BRUMDEC Project State-of-the-Art Review, Identification of Constraints and Interim Recommendations and Budget for Establishing 405 Hectares (1,000 acres) of Rice on the Clay Soils at BRUMDEC", January 1982
- No. VI - 2 Vivian Chin, "Programme of Work for the Short-Term Adaptive Production-Oriented Research on Rice in the BRUMDEC Project", January 1982
- No. VI - 3 Claude Grand-Pierre, "Adaptive Research for Grain Production (BRUMDEC) - A Short-Term Programme", January 1982
- No. VI - 4 Claude Grand-Pierre, "Experimental Procedures for Grain Crops Research in the BRUMDEC Project", January 1982
- No. VI - 5 Charles Kennard, "Summary of the Proposed Programme of Work for Adaptive Production Oriented Research (Short-Term) in Vegetable Production in the BRUMDEC Project", January 1982
- No. VI - 6 Charles Kennard, "Vegetable Production (BRUMDEC) - Review and Proposed Short-Term Adaptive Production Oriented Research Programme", January 1982
- No. VI - 7 Bo-Myeong Woo, "Olive River Run-Off Plots - Description of the Experiment", January 1982
- No. VI - 8 Vivian Chin, "Fertilizer Experiments in BRUMDEC (Second Quarterly Report)", January 1982
- No. VI - 9 Claude Grand-Pierre, "Third Quarterly Report of the Short Term Production Oriented Sorghum Research Programme", January 1982
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- No. VI - 12 Charles Kennard, "Vegetable Production Programme - BRUMDEC Second Quarterly Report", Period December 19, 1981 - March 18, 1982, April 1982
- No. VI - 13 Claude Grand-Pierre, "Final Report on Grain Experimental Work in BRUMDEC", (Contract I), May 1982
- No. VI - 14 J. Y. Richmond, Ph.D., "Lab Safety Seminar - Animal Health - Conferences of Jonathan Richmond", June 1982



- No. VI - 15 Michael Wiles, "Freshwater Prawn (Shrimp) Culture for Jamaica - An Exploratory Report", June 1982
- No. VI - 16 Norma Munguia, Bryon Lawrence, "Goat Revolving Scheme Project Model", Rural Women Project, July 1982
- No. VI - 17 Franklin E. Rosales, Ministry of Agriculture et al "Experimental Designs for Cassava-Peanut Production Systems", July 1982

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Título TION SYSTEMS

Fecha Devolución	Nombre del solicitante
8 MAR	George Buchino
27 MAR	David Rodriguez



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