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7.9-10115
TM-79979
LACIE-00200
VOLUME VII

LARGE AREA CROP INVENTORY EXPERIMENT (LACIE)

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(E79-10115) LARGE AREA CROP INVENTORY,
EXPERIMENT (LACIE). LEVEL 3 BASELINE,
INFORMATION EVALUATION (IE) REQUIREMENTS,
VOLUME 7 (NASA) 40 P HC A03/MF A01 CSCL 02C



NASA NOAA USDA

Level III Baseline

INFORMATION EVALUATION (IE)
REQUIREMENTS



NOTICE: THIS IS A BASELINED LEVEL III DOCUMENT CON-
TROLLED BY THE LACIE LEVEL III CHANGE CONTROL BOARD.
ANY PROPOSED CHANGES SHOULD BE DOCUMENTED ON AN
RECP FORM AND TRANSMITTED TO R. B. MACDONALD,
LACIE MANAGER, NASA-JSC, CODE TF, HOUSTON, TEXAS 77058.

National Aeronautics and Space Administration

LYNDON B. JOHNSON SPACE CENTER

Houston, Texas

December 16, 1974

REVISIONS

REV LTR	CHANGE NO.	DESCRIPTION	DATE
		<p data-bbox="421 411 1071 480">BASELINE ISSUE (Reference CCBD #III-0001, dtd December 16, 1974)*</p> <p data-bbox="449 1342 1106 1440">*The changes required by the following RID's which were approved during the LACIE Project Review conducted December 3 through 5, 1974, have been incorporated into this baseline issue of the LACIE Level III Requirements Documents:</p> <p data-bbox="506 1460 1049 1617">0-2 through 0-13, 0-15 through 0-29, and 0-31 through 0-46 1a-1, 1a-2, 1a-10,, 1a-21, 1a-34, and 1a-36 1b-3 and 1b-6 1c-2, 1c-4, 1c-5, 1c-9, 1c-10, 1c-13, 1c-16, 1c-17, and 1c-20 2-12a, 2-13, 2-17, and 2-27</p> <p data-bbox="449 1626 1106 1754">All other changes required by the remaining RID's approved during the Project Review will be incorporated by transmitting an RECP to the LACIE Level III Change Control Board for approval. Each RECP should be accompanied by the appropriate RID Closeout Form as described during the Project Review.</p>	12-16-74

LIST OF EFFECTIVE PAGES

The current status of all pages in this document is as shown below:

<u>Page No.</u>	<u>Change No.</u>	<u>CCBD No.</u>
<u>i through vii</u>	Original	III-0001
<u>1 through 33</u>	Original	III-0001

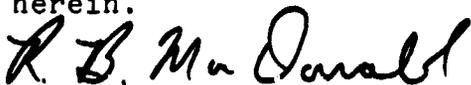
FOREWORD

Efficient management of the Large Area Crop Inventory Experiment (LACIE) dictates that effective controls of project activities be established. To provide a basis for effective control, documentation will be prepared, baselines will be established, and changes to the baseline will be subsequently controlled by the proper management levels.

The specific control documents that will be used are defined in the LACIE Project Plan, LAP01. All elements of the LACIE project must adhere to these baselined control documents; and where it is considered that the requirements should be changed, the proper change request accompanied by a full justification must be submitted to the proper management level in accordance with established procedures. These documents will be maintained current by change notices and revisions, as required. Each change notice and/or revision will reference the applicable Change Control Board Directive (CCBD) that approved the change.

This document LACIE-00200, Volume VII, defines the LACIE Information Evaluation requirements and has been prepared in accordance with the Instructions for Preparation of LACIE Requirements Documents, LACIE-00100, Revision C, dated November 20, 1974. "Full-Up System" as used in this document is defined as the system required to accomplish LACIE Phase II. In general, the approach used in each section is to specify the requirements of the full-up system and then to specify the requirements of any interim systems by reference to specific paragraphs in the full-up system requirements section(s) of this document. The LACIE project phases are defined in the LACIE Project Plan, LAP01.

The organization responsible for the implementation of each requirement defined in this document is specified on an individual requirement basis. When implementation responsibility applies to a complete section, the implementation responsibility is specified after the section title. A "section" for the purpose of designating implementation responsibility is defined as being any numbered paragraph and all subparagraphs. Where different implementation responsibilities apply to different portions of a section, the implementation responsibility is specified in an individual paragraph or sentence basis, as applicable. All implementing organizations designated shall accomplish their implementation activities in accordance with the requirements specified herein.



R. B. MacDonald

Manager, Large Area Crop Inventory Experiment

CONTENTS

Section		Page
1.0	<u>FUNCTIONAL RESPONSIBILITIES</u>	1
	1.1 GENERAL RESPONSIBILITIES.	1
	1.2 SPECIFIC RESPONSIBILITIES	1
2.0	<u>APPLICABLE DOCUMENTS</u>	3
3.0	<u>FUNCTIONAL FLOW DIAGRAMS</u>	5
	3.1 APPLICATIONS EVALUATION SYSTEM DEVELOPMENT	5
	3.2 APPLICATIONS EVALUATION SYSTEM OPERATION	5
	3.2.1 Full-Up System	5
	3.2.2 Interim Systems.	5
4.0	<u>INTEGRATED SYSTEM REQUIREMENTS</u>	7
	4.1 FULL-UP SYSTEM.	7
	4.1.1 Tasks.	7
	4.1.2 Capabilities	10
	4.1.3 Products	10
	4.2 INTERIM SYSTEMS	10
5.0	<u>INPUT REQUIREMENTS</u>	13
	5.1 FULL-UP SYSTEM.	13
	5.1.1 Data Acquisition, Preprocessing, and Transmission Subsystem (DAPTS).	13
	5.1.2 Classification and Mensuration Subsystem (CAMS)	13
	5.1.3 Yield Estimation Subsystem (YES) .	13

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Section		Page
	5.1.4 Crop Assessment Subsystem (CAS).	13
	5.1.5 Information Storage, Retrieval, and Reformatting Subsystem (ISRRS).	17
	5.1.6 System Performance Evaluation (SPE).	17
	5.1.7 Information Evaluation (IE). . . .	17
	5.1.8 Research	18
	5.1.9 Test and Evaluation.	18
	5.2 INTERIM SYSTEMS	18
6.0	<u>USDA INFORMATION EVALUATION OUTPUT PRODUCTS</u>	19
	6.1 FULL-UP SYSTEM.	19
	6.1.1 LACIE Crop Information Evaluation Reports	19
	6.1.2 Conventional USDA Crop Report/ LACIE Crop Report Comparison	22
	6.1.3 Cost/Benefit Analysis of LACIE- Type Information	24
	6.1.4 Operational Utilization Evaluation Report.	24
	6.2 INTERIM SYSTEMS	24
7.0	<u>INTERFACE REQUIREMENTS</u>	25
8.0	<u>OPERATIONAL REQUIREMENTS AFFECTING SYSTEM DESIGN</u>	27
	8.1 THROUGHPUT REQUIREMENTS	27
	8.2 RESPONSE REQUIREMENTS	27
	8.3 RELIABILITY REQUIREMENTS.	27

Section		Page
8.4	SECURITY REQUIREMENTS	27
8.5	DELIVERY REQUIREMENTS	27
8.6	QUALITY ASSURANCE REQUIREMENTS.	28
8.7	OTHER OPERATIONAL REQUIREMENTS.	28
9.0	<u>SYSTEM VERIFICATION REQUIREMENTS</u>	29
10.0	<u>RESEARCH REQUIREMENTS.</u>	31
11.0	<u>TEST AND EVALUATION REQUIREMENTS</u>	33

GLOSSARY

AES	Applications Evaluation System
CAMS	Classification and Mensuration Subsystem
CAS	Crop Assessment Subsystem
CCBD	Change Control Board Directive
DAPTS	Data Acquisition, Preprocessing, and Transmission Subsystem
Full-Up System	System required to accomplish Phase II of LACIE
IE	Information Evaluation
Interim Systems	Systems required to accomplish subphases of LACIE Phase I, excluding Phases I-A and I-B
ISRRS	Information Storage, Retrieval, and Reformatting Subsystem
LACIE	Large Area Crop Inventory Experiment
LACIE ASVB	LACIE Applications Systems Verification Branch
LACIE PO	LACIE Project Office
LACIE RTEB	LACIE Research, Test, and Evaluation Branch
NASA	National Aeronautics and Space Administration
NASA-COD	NASA/JSC Center Operations Directorate
NASA-DSAD	NASA/JSC Data Systems and Analysis Directorate
NASA-GSFC	NASA/Goddard Space Flight Center
NASA/JSC	NASA/Lyndon B. Johnson Space Center
NASA-S&AD-FSO	NASA/JSC Science and Applications Directorate, Facilities Support Office

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NOAA	National Oceanic and Atmospheric Administration
SPE	System Performance Evaluation
TBD	To Be Determined
USDA	U.S. Department of Agriculture
YES	Yield Estimate Subsystem

1.0 FUNCTIONAL RESPONSIBILITIES

1.1 GENERAL RESPONSIBILITIES

This function will be conducted at the U.S. Department of Agriculture (USDA) LACIE headquarters, with prime responsibility within USDA and participation by the National Aeronautics and Space Administration (NASA) and the National Oceanic and Atmospheric Administration (NOAA). The USDA will be responsible for evaluating the timeliness and utility of the acreage, yield, and production information produced by the LACIE Applications Evaluation System (AES).

1.2 SPECIFIC RESPONSIBILITIES

The USDA has these responsibilities:

- a. Evaluating the timeliness and utility of area, yield, and production information produced within the LACIE AES.
- b. Setting forth USDA policy as related to release of area, yield, and production information produced within the LACIE AES, to all organizations or individuals not in direct support of the LACIE AES.
- c. Integrating information produced within the LACIE AES into on-going operational activities associated with the appropriate functional agencies and services with the USDA.
- d. Performing a cost/benefit analysis of area, yield, and production information produced within the LACIE AES.
- e. Analyzing and evaluating the application of techniques and procedures utilized within the LACIE AES to the derivation of area, yield, and production information for crops other than wheat.

2.0 APPLICABLE DOCUMENTS

The following documents are applicable to the extent specified herein:

- a. LACIE Project Plan, LAP01, dated November 1974.
- b. Instructions for Preparation of LACIE Requirements Documents, LACIE-00100, Revision C, dated November 20, 1974.
- c. LACIE System Performance Evaluation Efficiency Analysis (SPE-EA) Requirements, LACIE-00200, Volume VI-A, dated December 16, 1974.
- d. LACIE Crop Assessment Subsystem Requirements, LACIE-00200, Volume IV, dated December 16, 1974.

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3.0 FUNCTIONAL FLOW DIAGRAMS

3.1 APPLICATIONS EVALUATION SYSTEM DEVELOPMENT

Not applicable

3.2 APPLICATIONS EVALUATION SYSTEM OPERATION

3.2.1 Full-Up System

The flow diagram shown in figure 1 is presented as an aid in delineating the overall functions of the USDA information evaluation (IE) function and its interfaces with subsystems within LACIE. This functional flow diagram will also aid the reader in relating the detailed requirements, presented in the following paragraphs of this document, with the subsystem interfaces.

3.2.2 Interim Systems

The flow diagram shown in figure 1, which delineates the functional interfaces of the USDA information evaluation function and LACIE subsystems, is basically identical for the interim systems.

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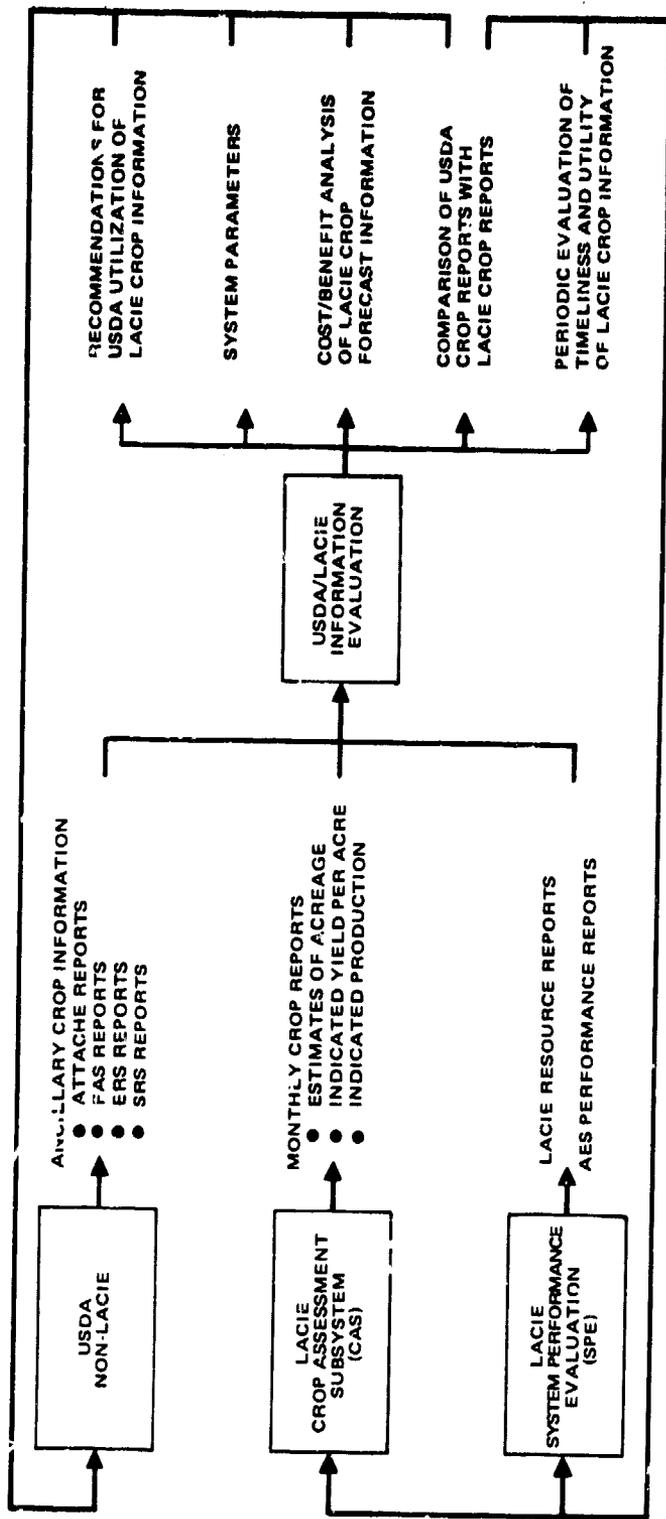


Figure 1. - Information Evaluation/LACIE functional flow.

4.0 INTEGRATED SYSTEM REQUIREMENTS

4.1 FULL-UP SYSTEM

4.1.1 Tasks

The following tasks represent the effort required to be completed to provide capabilities, analysis, or documentation of information produced within LACIE and evaluated within the USDA IE function. In addition, a family of tasks has been identified for functions required to bring the USDA IE function up to operational readiness.

4.1.1.1 Information Evaluation Tasks.

4.1.1.1.1 Information Evaluation Plan: (Required by IE/USDA; Category 1; Implementation Responsibility: IE/USDA. Define, develop, and publish a plan for evaluating the timeliness and utility of area, yield, and production information produced within the LACIE AES. This plan will address, as a minimum, the following:

- a. Detailed procedures for actually accomplishing an evaluation of the timeliness and utility of wheat area information for the selected study areas.
- b. Detailed procedures for actually accomplishing an evaluation of the timeliness and utility of area, yield, and production information.
- c. The type, content, format; and frequency of information required from the LACIE AES.
- d. Delineation of USDA policy as related to release of area, yield, and production information to all organizations or individuals not directly supporting the LACIE AES.
- e. Delineation of USDA policy as related to handling and storage of area, yield, and production information within the LACIE AES.

- f. Definition of the type, content, format, and frequency of production of all products produced within the USDA IE function.

4.1.1.1.2 LACIE Information Evaluation: (Required by IE; Category 2; Implementation Responsibility: IE/USDA.) Implement the USDA Information Evaluation Plan for periodic evaluation of the timeliness and utility of area, yield, and production information produced within the LACIE AES. Provisions will be made for documenting the results of the USDA evaluation of LACIE for the purposes of providing the LACIE AES with a measure of the relative value of each LACIE information product to the USDA; suggested improvements or changes in format, frequency, and accuracy and precision of LACIE information products; and recommendations related to the potential utilization of LACIE-type information within on-going operational activities associated with the appropriate functional agencies and services within the USDA.

4.1.1.1.3 Cost/benefit analysis of LACIE-type Information: (Required by IE; Category 3; Implementation Responsibility IE/USDA.) A cost/benefit analysis of area, yield, and production information produced within the LACIE AES will be performed by USDA.

4.1.1.1.4 Evaluation of the application of LACIE crop forecasting procedures to crops other than wheat: (Required by IE; Category 3; Implementation Responsibility: IE/USDA.) The application of techniques and procedures utilized within the LACIE AES for the derivation of area, yield, and production information pertaining to crops other than wheat will be evaluated by USDA.

4.1.1.1.5 Comparison of USDA conventional crop reports with LACIE crop reports (Required by IE; Category 2; Implementation Responsibility: IE/USDA.) A comparison of the accuracy and precision of the conventional USDA crop reports in relation to the accuracy and precision of LACIE crop reports will be provided by USDA.

4.1.1.1.6 USDA ancillary crop information: (Required by IE; Category 3; Implementation Responsibility: IE/USDA.) Available USDA conventional crop information will be acquired to support the evaluation of LACIE information (e.g., Attache Reports, Foreign Agriculture Service Reports, Economic Research Service Reports, Statistical Reporting Service reports, etc.).

4.1.1.2 Crop Assessment Subsystem (CAS) tasks.

4.1.1.2.1 Crop reports for each LACIE country: (Required by IE; Category 2; Implementation Responsibility: CAS.) Monthly LACIE crop reports for the estimated area, indicated yield, and indicated production of each type of wheat in each LACIE country shall be provided by CAS.

Each LACIE crop report shall contain, as a minimum, the following:

- a. Monthly estimates of area for each type of wheat by strata, zone, region, and country with an estimate of errors associated with each level of aggregation.
- b. Monthly estimates of indicated yield for each type of wheat by station, strata, zone, region, and country with an estimate of errors associated with each level of aggregation.
- c. Monthly estimates of indicated production for each type of wheat by strata, zone, region, and country with an estimate of errors associated with each level of aggregation.
- d. Descriptors related to each level of aggregation which will aid in the evaluation of the monthly estimates.
- e. Discussion related to the sample segments missed per each reporting period and an estimate of the effect of missed segments on estimates at each level of aggregation.
- f. Discussion related to the stage of growth of each type of wheat and an estimate of the effect of the stage of growth on estimates at each level of aggregation.

- g. An assessment of the accuracy and precision of the information contained in each crop report produced within the LACIE project shall be provided by CAS.

4.1.1.3 System performance evaluation tasks.

4.1.1.3.1 LACIE Efficiency Analysis Reports: (Required by IE; Category 2; Implementation Responsibility: SPE.) Resources utilized during LACIE operations shall be monitored and documented by SPE. These data will be documented in the LACIE Efficiency Assessment Reports at a level of detail that will permit a determination (after-the-fact) of the level of resources required at each point in the extraction of crop information from data within LACIE and breakouts related to each subsystem with LACIE.

4.1.2 Capabilities

There are no specific capabilities that are required by the USDA information evaluation function related to the development or operation of the AES that have been identified. Capabilities that are developed in support of CAS or SPE will adequately support known USDA information evaluation requirements.

4.1.3 Products

A discussion of each type of product and frequency of production of each product required to support the development and operation of the USDA IE function and a discussion of each type of product and frequency of production of each product produced within this function are presented in sections 5 and 6 of this document.

4.2 INTERIM SYSTEMS

All tasks, capabilities, resources, and input and output products related to the development and operation of the USDA IE function are the same for the full-up system and the Phase I-C and I-D systems except that the crop reports

produced by CAS during Phases I-C and I-D will address only area estimates. This is in contrast to estimates of area, indicated yield, and indicated production during the full-up system operation.

5.0 INPUT REQUIREMENTS

This section delineates the products that facilitate the design and operation of the information evaluation (IE) function. Each product is defined and the organization responsible for implementing and providing the IE with applicable documentation or thematic products is denoted.

5.1 FULL-UP SYSTEM

5.1.1 Data Acquisition, Preprocessing, and Transmission Subsystem (DAPTS)

Not applicable

5.1.2 Classification and Mensuration Subsystem (CAMS)

Not applicable

5.1.3 Yield Estimation Subsystem (YES)

Not applicable

5.1.4 Crop Assessment Subsystem (CAS)

5.1.4.1 Speculative and nonspeculative data. (Category 1). Data or information contained or produced within LACIE and utilized by the USDA IE function will be classified as follows.

- a. Speculative data. Speculative data are defined to be data relating to corn, wheat, oats, cotton, or soybeans, the assembling and collating of which would make it possible for (TBD) personnel to approximately anticipate results contained in the LACIE crop report, for the LACIE countries on the condition,

yield, or probable production of designated commodities. These data shall be deemed speculative for:

- (1). Corn in Illinois, Indiana, Iowa, Kansas, Minnesota, Missouri, Nebraska, Ohio, South Dakota, and Wisconsin, and LACIE countries other than the United States.
- (2). Winter wheat in Illinois, Indiana, Kansas, Missouri, Montana, Nebraska, Ohio, Oklahoma, Texas, and Washington, and LACIE countries other than the United States.
- (3). Spring wheat in Idaho, Minnesota, Montana, North Dakota, South Dakota, and Washington, and LACIE countries other than the United States.
- (4). Oats in Illinois, Indiana, Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin, and LACIE countries other than the United States.
- (5). Cotton in Arkansas, Louisiana, Mississippi, Oklahoma, and Texas, and LACIE countries other than the United States.
- (6). Soybeans in Illinois, Indiana, Iowa, Missouri, Minnesota, and Ohio, and LACIE countries other than the United States.

b. Non-speculative data. Non-speculative data are defined to be any statistical data other than the speculative data defined above.

5.1.4.2 Data handling and transmission. (Category 1). Summaries of speculative data produced within LACIE and associated recommendations shall be handled as follows: When transmitted by mail or courier, the summaries and recommendations will be forwarded to the USDA LACIE headquarters in a sealed envelope marked "TBD". When transmitted by telegraph, the summary and recommendations will be forwarded in a special code (classification level TBD provided by USDA). Non-speculative data may at all times be forwarded directly to the USDA LACIE headquarters by the CAS subsystem manager.

5.1.4.3 Monthly crop reports. (Category 2; Implementation Responsibility: CAS.) The data for the monthly LACIE crop report must be compiled, printed, and distributed (TBD distribution list) by the 12th of each month. Each report must embrace statements on the conditions of crops and an assessment of the accuracy and precision of LACIE-produced information by crop reporting district, states, and the United States. Each report must embrace statements on the condition of crops and an assessment of the accuracy and precision of LACIE-produced information by zone, region, and country for all LACIE countries other than the United States. These reports must contain such explanations and comparisons as may be useful during evaluation of the reports by the USDA. The following reports shall be transmitted by CAS to the USDA LACIE headquarters by the day of each month as noted below:

- a. Area for harvest, indicated yield and indicated production (as of January 1) of winter wheat for each LACIE country in the Southern Hemisphere. This report will be transmitted by January TBD.
- b. Area for harvest, indicated yield and indicated production (as of February 1) of winter wheat for each LACIE country in the Southern Hemisphere. This report will be transmitted by February TBD.
- c. Area for harvest, indicated yield and indicated production (as of March TBD) of winter wheat for each LACIE country in the Southern Hemisphere. This report will be transmitted by March TBD.
- d. Area remaining for harvest as of May 1, indicated yield indicated production of winter wheat, in each LACIE country in the Northern Hemisphere. This report will be transmitted by May TBD.
- e. Area, yield and production for winter wheat including revised data for preceding year for each LACIE country in the Southern Hemisphere. This report will be transmitted by May TBD.

- f. Seeded area and indicated production of winter wheat (next year's crop) for each LACIE country in the Southern Hemisphere. This report will be transmitted by May TBD. [NOTE: A crop is associated with the calendar year in which it is harvested, regardless of which calendar year the crop is planted.]
- g. Area for harvest for winter wheat, indicated yield (as of June 1) for winter wheat, and indicated production of winter wheat for each LACIE country in the Northern Hemisphere. This report will be transmitted by June TBD.
- h. Planted area and area for harvest of all winter wheat, and all spring wheat. Indicated yield and production (as of July 1) for winter wheat and spring wheat for each LACIE country in the Northern Hemisphere. This report will be transmitted by July TBD.
- i. Planted area for spring wheat. Area for harvest, indicated yield and indicated production (as of August 1) of winter wheat and spring wheat for each LACIE country in the Northern Hemisphere. This report will be transmitted by October TBD.
- n. Area remaining for harvest (as of October 1), indicated yield and indicated production of winter wheat for each LACIE country in the Southern Hemisphere. This report will be transmitted by October TBD.
- o. Seeded area and indicated production of winter wheat (next year's crop) for each LACIE country in the Northern Hemisphere. This report will be transmitted by October TBD.
- p. Area of winter wheat for harvest, indicated yield (as of November 1) for winter wheat, and indicated production of winter wheat for each LACIE country in the Southern Hemisphere. This report will be transmitted by November TBD.
- q. Seeded area and indicated production of winter wheat (next year's crop) for each LACIE country in the Northern Hemisphere. This report will be transmitted by November TBD.

r. Area, yield and production for wheat including revised data for preceding year for each LACIE country in the Northern Hemisphere. This report will be transmitted by December TBD.

s. Seeded area and indicated production of winter wheat (next year's crop) for each LACIE country in the Northern Hemisphere. This report will be transmitted by December TBD.

t. Planted area and area for harvest of winter wheat. Indicated yield and production (as of December 1) for winter wheat for each LACIE country in the Southern Hemisphere. This report will be transmitted by December TBD.

5.1.5 Information Storage, Retrieval, and Reformatting Subsystem (ISRS)

Not applicable

5.1.6 System Performance Evaluation (SPE) (Impl. Resp.: SPE)

5.1.6.1 LACIE Efficiency Analysis Reports. (Category 2)
The LACIE Efficiency Analysis Reports shall delineate the resources utilized during LACIE operations. These data should be documented at a level of detail to facilitate an after-the-fact determination of resources required at each point in the extraction of crop information from data within LACIE and a breakout related to each subsystem within LACIE.

5.1.7 Information Evaluation (IE) (Impl. Resp.: USDA)

USDA conventional crop information in the form of attache reports, Foreign Agriculture Service Reports, Economic Research Reports, Statistical Reporting Service Reports, etc.

5.1.8 Research

Not applicable

5.1.9 Test and Evaluation

Not applicable

5.2 INTERIM SYSTEMS

All input requirements related to the development and operation of the USDA IE function are the same for the full-up system and the Phase I-C and Phase I-D systems except that the crop reports produced by CAS during Phases I-C and I-D will address only area estimates. This is in contrast to estimates of area, indicated yield, and indicated production during the full-up system operation.

6.0 INFORMATION EVALUATION OUTPUT PRODUCTS

This section of this document contains a delineation of products produced within the information evaluation function by the USDA. Each output product is defined, and the organization scheduled to receive copies of each product is denoted.

6.1 FULL-UP SYSTEM

6.1.1 LACIE Crop Information Evaluation Reports (Req'd by CAS and LACIE PO; Cat. 2; Impl. Resp.: USDA)

The monthly LACIE crop information and assessments of the accuracy and precision of the information produced by the Crop Assessment Subsystem must be evaluated in relation to the timeliness and utility of this information in the context of the on-going operational activities within the appropriate functional agencies and services within the USDA. These reports should contain suggested improvements on changes in format, frequency, and accuracy and precision of LACIE Information Products. The following crop information evaluation reports shall be transmitted by the USDA to the designated subsystems and organizations by the 28th day of each month as noted below:

- a. Area for harvest, indicated yield and indicated production as of January 1 of winter wheat for each LACIE country in the Southern Hemisphere. This report shall be transmitted by January 28.
- b. Area for harvest, indicated yield and indicated production as of February 1, of winter wheat for each LACIE country in the Southern Hemisphere. This report shall be transmitted by February 28.
- c. Area for harvest, indicated yield and indicated production as of March 1 of winter wheat for each LACIE country in the Southern Hemisphere. This report shall be transmitted by March 28.

- d. Area remaining for harvest as of May 1, indicated yield and indicated production of winter wheat in each LACIE country in the Northern Hemisphere. This report shall be transmitted by May 28.
- e. Area, yield and production for winter wheat including revised data for preceding year for each LACIE country in the Southern Hemisphere. This report shall be transmitted by May 28.
- f. Seeded area and indicated production of winter wheat (next year's crop) for each LACIE country in the Southern Hemisphere. This report shall be transmitted by May 28.
- g. Area for harvest for winter wheat, indicated yield as of June 1 for winter wheat, and indicated production of winter wheat for each LACIE country in the Northern Hemisphere. This report shall be transmitted by June 28.
- h. Planted area and area for harvest of all winter wheat and all spring wheat. Indicated yield and production as of July 1 for winter wheat and spring wheat for each LACIE country in the Northern Hemisphere. This report shall be transmitted by July 28.
- i. Planted area for spring wheat. Area for harvest, indicated yield and indicated production as of August 1 of winter wheat and spring wheat for each LACIE country in the Northern Hemisphere. This report shall be transmitted by August 28.
- j. Seeded area and indicated production of winter wheat (next year's crop) for each LACIE country in the Southern Hemisphere. This report shall be transmitted by August 28.
- k. Area for harvest, indicated yield and indicated production as of September 1 of winter wheat and spring wheat for each LACIE country in the Northern Hemisphere. This report shall be transmitted by September 28.

- l. Seeded area and indicated production of winter wheat (next year's crop) for each LACIE country in the Northern Hemisphere. This report shall be transmitted by September 28.
- m. Area for harvest, indicated yield and indicated production of all types of wheat for each LACIE country in the Northern Hemisphere. This report shall be transmitted by October 28.
- n. Area remaining for harvest as of October 1, indicated yield and indicated production of winter wheat for each LACIE country in the Southern Hemisphere. This report shall be transmitted by October 28.
- o. Seeded area and indicated production of winter wheat (next year's crop) for each LACIE country in the Northern Hemisphere. This report shall be transmitted by October 28.
- p. Area for harvest of winter wheat, indicated yield as of November 1 for winter wheat, and indicated production of winter wheat for each LACIE country in the Southern Hemisphere. This report shall be transmitted by November 28.
- q. Seeded area and indicated production of winter wheat (next year's crop) for each LACIE country in the Northern Hemisphere. This report shall be transmitted by November 28.
- r. Area, yield and production for wheat including revised data for preceding year for each LACIE country in the Northern Hemisphere. This report shall be transmitted by December 28.
- s. Seeded area and indicated production of winter wheat (next year's crop) for each LACIE country in the Northern Hemisphere. This report shall be transmitted by December 28.
- t. Planted area and area for harvest of winter wheat. Indicated yield and production as of December 1 of winter wheat for each LACIE country in the Southern Hemisphere. This report shall be transmitted by December 28.

6.1.2 Conventional USDA Crop Report/LACIE
Crop Report Comparison
(Req'd by CAS and LACIE PO; Cat. 1; Impl. Resp.: IE/USDA)

Reports which compare the accuracy and precision of the data for designated intensive study areas, as contained in conventional USDA Crop Reports in relation to the accuracy and precision of the LACIE-produced information for the same designated intensive study areas as contained in LACIE Crop reports must be compiled, printed, and distributed by USDA to designated subsystems and organizations by the 28th day of each month as noted below:

- a. Comparison of USDA Crop Report of area remaining for harvest as of May 1, indicated yield and indicated production of winter wheat in relation to LACIE Crop Report of area remaining for harvest as of May 1, indicated yield and indicated production of winter wheat. This report shall be transmitted by May 28.
- b. Comparison of USDA Crop Report of area for harvest of winter wheat, indicated yield as of June 1 for winter wheat, and indicated production of winter wheat in relation to LACIE Crop Report of area for harvest for winter wheat, indicated yield as of June 1 for winter wheat, and indicated production of winter wheat. This report shall be transmitted by June 28.
- c. Comparison of USDA Crop Report of planted area and area for harvest of all winter wheat and all spring wheat, and indicated yield and production as of July 1 for winter wheat and spring wheat in relation to the LACIE Crop Report of planted area and area for harvest of all winter wheat and all spring wheat, and indicated yield and production as of July 1 for winter wheat and spring wheat. This report shall be transmitted by July 28.
- d. Comparison of USDA Crop Report of planted area for spring wheat, area for harvest, indicated yield and indicated production as of August 1 of winter wheat and spring wheat in relation to the LACIE Crop Report of planted area for spring wheat, area for harvest, indicated yield and indicated production as of

August 1 of winter wheat and spring wheat. This report shall be transmitted by August 28.

- e. Comparison of USDA Crop Report of area for harvest, indicated yield and indicated production as of September 1 of winter and spring wheat, and indicated production of wheat by type in relation to the LACIE Crop Report of area for harvest, indicated yield and indicated production as of September 1 of winter wheat and spring wheat. This report shall be transmitted by September 28.
- f. Comparison of USDA Crop Report of area for harvest, indicated yield and indicated production of all wheat in relation to the LACIE Crop Report of area for harvest, indicated yield and indicated production of all wheat. This report shall be transmitted by October 28.
- g. Comparison of USDA Crop Report of area, yield and production for wheat including revised data for preceding year in relation to the LACIE Crop Report of area, yield and production of wheat including revised data for preceding year. This report shall be transmitted by December 28.
- h. Comparison of December USDA Crop Report of seeded area and indicated production of winter wheat for next year's crop in relation to the September LACIE Crop Report of seeded area and indicated production of winter wheat for next year's crop. This report shall be transmitted by December 28.
- i. Comparison of December USDA Crop Report of seeded area and indicated production of winter wheat for next year's crop in relation to the October LACIE Crop Report of seeded area and indicated production of winter wheat for next year's crop. This report shall be transmitted by December 28.
- j. Comparison of December USDA Crop Report of seeded area and indicated production of winter wheat for next year's crop in relation to the November LACIE Crop Report of seeded area and indicated production of winter wheat for next year's crop. This report shall be transmitted by December 28.

- k. Comparison of December USDA Crop Report of seeded area and indicated production of winter wheat for next year's crop in relation to the December LACIE Crop Report of seeded area and indicated production of winter wheat for next year's crop. This report shall be transmitted by December 28.

6.1.3 Cost/Benefit Analysis of LACIE-Type Information
(Req'd by LACIE-PO; Cat. 3; Impl. Resp.: IE/USDAO)

A cost/benefit analysis of area, yield, and production information produced within the LACIE applications evaluation system.

6.1.4 Operational Utilization Evaluation Report
(Req'd by LACIE-PO; Cat. 3; Impl. Resp.: IE/USDA)

An evaluation of the application of techniques and procedures, utilized within the LACIE Applications Evaluation System, to the derivation of area, yield, and production information pertaining to other crops.

6.2 INTERIM SYSTEMS

Output products produced within the USDA information evaluation function during the full-up system operation (refer to articles 6.1.1 and 6.1.2) are the same during Phase I-C and I-D systems operations except the information produced by CAS during Phases I-C and I-D will address only area estimates. This is in contrast to estimates of area, indicated yield, and indicated production during the full-up system operation.

7.0 INTERFACE REQUIREMENTS

Not applicable

8.0 OPERATIONAL REQUIREMENTS AFFECTING SYSTEM DESIGN

8.1 THROUGHPUT REQUIREMENTS

Not applicable

8.2 RESPONSE REQUIREMENTS

Not applicable

8.3 RELIABILITY REQUIREMENTS

Not applicable

8.4 SECURITY REQUIREMENTS

A LACIE Security Plan shall be prepared by each organization designated with implementation responsibility. The plan for each implementing organization shall define the specific measures that will be utilized by that organization to comply with the LACIE security requirements. The LACIE security requirements shall be defined by the USDA and will be forwarded to the implementing organizations upon receipt by the LACIE project manager. Each implementing organization shall submit a plan for approval to the LACIE Level-III change board within 90 days after receipt of the USDA security requirements.

8.5 DELIVERY REQUIREMENTS

Not applicable

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8.6 QUALITY ASSURANCE REQUIREMENTS

Not applicable

8.7 OTHER OPERATIONAL REQUIREMENTS

Not applicable

9.0 SYSTEM VERIFICATION REQUIREMENTS

Not applicable

10.0 RESEARCH REQUIREMENTS

Not applicable

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11.0 TEST AND EVALUATION REQUIREMENTS

Not applicable

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