ANNUAL REPORT

Calendar Year, 1955

1. PROJECT: NORTH CENTRAL REGIONAL PROJECT NC-7

The Introduction, Multiplication, Preservation and Evaluation of New Plants for Industrial and Agricultural Use.

2. COOPERATING AGENCIES AND PRINCIPAL LEADERS

State Agricultural Experiment Stations	Representative
Illinois	E. B. Patterson
Indiana	E. C. Stevenson, Sec.
Iowa	I. J. Johnson
Kansas	A. J. Casady
Michigan	C. M. Harrison
Minnesota	A. N. Wilcox
Missouri	J. D. Baldridge
Nebraska	L. C. Newell
North Dakota	T. E. Stoa
Ohio	F. S. Howlett
South Dakota	S. A. McCrory
Wisconsin	D. C. Smith, Chairman
U. S. Department of Agriculture	
Office of Experiment Stations	F. D. Fromme H. R. Thomas
Soil Conservation Service	A. D. Stoesz
Agricultural Research Service Plant Introduction Section	C. O. Erlanson W. H. Hodge
Regional Plant Introduction Station Ames, Iowa Regional Coordinator	Max M. Hoover Albert F. Dodge
Administrative Adviser	E. F. Frolik

3. NATURE OF WORK AND PRINCIPAL RESULTS OF THE YEAR.

Regional Project NC-7 is cooperative between the state agricultural experiment stations of the North Central Region and the Plant Introduction Section, Agricultural Research Service, United States Department of Agriculture. The Regional Plant Introduction Station at Ames, Iowa, serves as the regional center for assembling all incoming plant materials for initial evaluation, seed increase, maintenance and for further re-distribution to research workers.

Agricultural experiment stations of the North Central Region assist in the screening, evaluation and use of these plant materials in their respective research programs concerned with crop improvement. Performance data reported by research workers are prepared by the Regional Station and made available to all interested research workers.

The Plant Introduction Section obtains plant materials through domestic and foreign exploration, exchange with foreign governments and collaborators and by direct purchase. The headquarters staff of the Section contributes technical services as required for the identification and placement of plant materials as they are released from plant quarantine, provides certain office supplies and equipment and pays a portion of the salary of the technical staff of the Regional Plant Introduction Station.

National Coordinating Committee

The fifth meeting of the National Coordinating Committee was held in Washington D. C., March 25 - 26, 1955. The committee is comprised of representatives from the various "New Crops" projects including NC-7, NE-9, S-9, W-6, IR-1 and the Federal Plant Introduction work project, HCg-5.

The functions of the National Coordinating Committee as reported in the minutes of the fourth committee meeting held at Denver, May 12 - 13, 1953, are as follows:

1. Assist in determihing priorities and areas for foreign plant exploration.

2. Establish policies on releases of materials introduced into the regions through this program.

3. Develop for presentation to the Regional Associations of Directors a suggested allocation of funds required for research cooperation between two or more regions on a special project.

4. Coordination of research. To insure that 9b-3 bunds are most effectively used, the National Committee suggests that copies of existing and proposed regional sub-projects be inter-changed among the regional coordinators and regional technical committees. Apparent needs and opportunities for strengthening the regional program, for inter-regional cooperation, as well as apparent cases of duplication, should be brought to the attention of the regional coordinators and to the National Committee.

5. Develop proposals and justifications for adequate regional and national financing of the "New Plants" projects.

6. Develop a suggested program for popular stories on the functions, operations, and accomplishments of the projects.

7. Establish policies relative to correlation of this program with other organizations such as F.A.O., the National Research Council, Arnold Arboretum, or other agencies as may be interested in this program.

The fifth meeting of the National Coordinating Committee included progre reports from each of the cooperating projects.

Regional "New Crops" and project outlines were reviewed and it was recommended that revision should be made as a means of keeping the projects up-to-date. In as much as the NC-7 Regional Project had not been revised since the initiation of work in 1947, this revision of Regional Project NC-7 has been made and is attached to this report as Appendix A.

Other items of special interest include a report by C. O. Erlanson on "Inter-relations of the Agricultural Research Service Plant Introduction Section and the Regions Relative to Operational Leadership and Financing."

This report reveals that the cooperative program has received a healthy increment of 9b3 funds since 1948, whereas the funds allotted to the Section of Plant Introduction by the Department have remained at approximately the same level. This situation has made it increasingly difficult for the Section of Plant Introduction to maintain the desired coordinating leadership Additional funds made available to the Section of Plant Introduction would greatly assist in maintaining proper balance in the cooperative program.

Chairman R. D. Lewis led a discussion on "Extent to Which Introduction, Evaluation and Cataloging" should be carried out by cooperating agencies inte ested in plant materials introduced under the "New Crops" program. Clarification was made as to the meaning of "Secondary Stations" and "Contributing Projects." It was recommended by the National Committee that "the name Regional Plant Introduction Station be used in the New Crops Projects for the main regional cooperative station, instead of the name Primary Plant Introduction Station."

The report of the standing sub-committee for a National Seed Storage Facility was reviewed in detail and shows that progress has been made in plans for establishing this National Facility.

Chairman Lewis reviewed the statement of Responsibilities and Policies Relating to Seeds. This statement represents a joint development of the State Agricultural Experiment Stations and of the U.S. Department of Agriculture and has been accepted as basic policy by the Agricultural Research Service.

Plant Exploration Proposals were reviewed by the National Coordinating Committee and the priorities established for this work will be considered by the Section of Plant Introduction in its program of foreign and domestic plant exploration activities.

Officers of the National Coordinating Committee are:

Director A. J. Heinicke, Chairman
Leader HCg5 Project - Secretary

Regional Coordinators Meeting

The Regional Coordinators held a joint meeting with the staff of the Plant Introduction Section at Beltsville, Maryland, March 23 - 24, 1955.

Problems of technical and administrative character were considered at this meeting.

The assignment of crop species (Appendix B) to Regions for maintenance of stocks or to Glenn Dale for permanent storage was arranged on the basis of crop adaptation and priority in the event that the amount of seed of the original introduction was limited in quantity. Research workers of any region may request seed of any of these accessions through their Regional Coordinator.

Regional Technical Committee

The Regional Technical Committee is comprised of the staff representativ of the Section of Plant Introduction in charge of Project HCg5 and 12 representatives appointed by the Experiment Station directors of the North Central Region, one committee member representing each state. This committee meets annually, prepares a budget, recommends regional work projects, present requests for the collection of plant materials on a priority basis and provides technical and administrative guidance for the operations program of the Regional Plant Introduction Station.

Regional funds are used for conducting the operations program of the Regional Plant Introduction Station, for travel expense of the Technical Committee and authorized crop sub-committees, for publication of research information having Regional and Inter-regional application and for partial support of state contributing projects concerned with maintenance and evaluation of introduced plant materials.

During the past year changes in representatives on the Technical Committee have been made fot three states, Administrative Adviser, and the representative of the Office of Experiment Stations.

H. R. Thomas represents the Office of Experiment Stations, E. F. Frolik is Administrative Adviser replacing W. V. Lambert. E. B. Patterson is the new representative from Illinois, replacing C. M. Woodworth. A. J. Casady has recently been appointed to replace R. C. Pickett from Kansas. A. N. Wilc replaces F. A. Krantz as committee member from Minnesota. E. C. Stevenson was chosen secretary of the Technical Committee at the last meeting to replace J. D. Baldridge, the former secretary.

The tenth meeting of the Regional NC-7 Technical Committee was held at Ames, Iowa, September 13 - 14, 1955. Crop sub-committees for Fruit crops, Woody plants, Forage crops, Cereals including corn and Vegetable crops organized at the ninth meeting of the Technical Committee at Lincoln, Nebraska, June 16 - 17, 1954, made their first report of activities for their respectiv crop fields at this meeting of the Technical Committee.

Crop sub-committees serve under the chairmanship of selected members of the NC-7 Technical Committee. The sub-committees consider specific problems of research concerning the various crops, develop better coordination and interest of research workers and act in an advisory capacity to the NC-7 Technical Committee.

Although crop sub-committees have no direct part in developing and recommending the budget for the Regional NC-7 Project, they do have an important function in developing state contributing projects for maintenance of germ plasm and for evaluation of plant materials by research workers in the five major crop fields.

The following project summary indicates the scope of work and distribution of 9b3 funds for assistance in maintaining germ plasm and evaluation of new plant introductions in the North Central Region.

This summary shows state, project title, date for initiation of work, budget for the present year and budget request for 1956 - 57. It should be noted that several new projects presented in the budget for 1956 - 57 are concerned with the evaluation of plant materials.

State contributing projects for Germ plasm preservation and evaluation receiving Regional 9b3 assistance.

State	Project		1955-56 Budget	1956-5 Budge
Illinois	The Assembly, Evaluation, Seed Increase of New Introductions and Genetic Chromosomal Tester Stocks of Maize	7/1/53	$2500	$3500
Illinois	Evaluation of Grasses and Legumes	7/1/56		500
Indiana	Evaluation of Corn Accessions	7/1/56		1500
Indiana	Evaluation of Grasses & Legumes	7/1/56		900
Iowa	Plant Pathology Disease Survey	7/1/56		2000
Iowa	Evaluation of Grasses & Legumes	7/1/56		500
Kansas	Multiplication, Preservation and Determination of Potential Value of Forage Grasses & Legumes	7/1/49	2000	2000
Kansas	Evaluation of Miscellaneous Legumes	7/1/56		500
Michigan	Evaluation of Peas	7/1/56		900
Minnesota	Introduction Preservation and Evaluation of Stone Fruit of Probable Potential Value to the North Central Region	7/1/50	1000	1000
Nebraska	Preservation of Alfalfa Clones and Seed Stocks Needed in Alfalfa Improvement	7/1/49	500	700
Nebraska	Preservation and Preliminary Evaluation of Improtant Native and Introduced Grasses Considered Valuable in Improvement for Forage and Conservation Purposes	7/1/49	1200	1500
Nebraska	Evaluation of Special Legumes	7/1/56		500
North Dakota	Preservation of Certain Physiologic Races of Flax Rust Melamspora lini	7/1/50	500	500
Ohio	Multiplication, Preservation, and Determination of Potential Pear Varieties for North Central States Introduced Into and Collected Within the United States	7/1/49	500	500
Ohio	The Evaluation of the Collection of Domestic and Wild Species of Tomato and the Maintenance of the Desirable Accessions and Valuable Breeding Stocks	7/1/49	1000	1000
South Dakota	The Collection, Preserving, Cataloging, Propagating, and Testing of Fruit Plants Having Potential Genetic Value	7/1/47	2500	2500
South Dakota	Evaluation of Grasses & Legumes	7/1/56		1000
Wisconsin	Yellow Dwarf Evaluation of Barley	7/1/56		1000

* Projects dated 7-1-56 have not received final approval by the Technical Committee.

Regional Plant Introduction Station

The Regional Plant Introduction Station conducts field work on approximately 40 acres of land owned by the Iowa Agricultural Experiment Station. Regional Station buildings include a greenhouse, Headhouse and office located on the Iowa State College campus and seed cleaning, field equipment and seed storage buildings located at the Field Headquarters of the project approximately two miles from the campus.

A building unit with equipment for controlled humidity and temperature is used for the storage of seed stocks for the project.

Field equipment for the cultivation, harvesting, cleaning and storage of seed are adequate and well suited to the needs of the project.

Regional Station Seed Production and Distribution

The Regional Plant Introduction Station was activated at Ames, Iowa, December 1, 1947. Hence, the crop year of 1955 is the eighth growing season since the Regional Station was established. It seems that each growing season presents new difficulties and hazards in the growing of exotic plants. This year the prolonged period of hot dry weather of mid-season caused loss of many forage grass and vegetable accessions, but in turn was considered one of the reasons for an unusually heavy set of seed on most of the alfalfa and legume accessions.

The field production program for 1955 included approximately 2700 accessions from which 631 new accessions were in sufficient quantity to place on the Regional Seed Inventory; about the same number of accessions were established in the field, approximately one-fourth were grown for replacement of stocks now on the seed list and another fourth failed to become established or produce seed.

The indicated production program for 1956 will be approximately the same number of accessions as shown in the statistical summary under column designated Accessions to be Grown, Appendix C. This indicates 997 seed packets now on hand for the 1956 planting which will be supplemented by about an equal number of accessions from the current seed list that require new seed replacement. New accessions received between now and spring date of planting will be grown. Hence, we anticipate approximately 2500 accessions in the field planting for 1956 and this is in fairly close agreement with the field planting work for the past several years.

The 1955 Regional Seed List that will be available for Regional distribution, Feb. 1, 1956, will have a cumulative total of 6640 items or approximately 85 percent of the total number of seed packets numbering 7834 that have been received to date.

During the past year, 8747 seed packets have been distributed to research workers of the North Central and other regions for research study and evaluation. This is more than double the number of seed packets distributed in 1954. The largest increases in distribution were in the forage grasses and vegetable crops which were 2075 - 4056 and 1345 - 4076 respectively for 1954 and 1955. The complete statistical summary for the four major crop groups, Grasses and Legumes, Vegetable crops and Ornamental, Oil and Special Crops showing the number of genera, number of accessions received, number of accessions on the seed list, number of accessions to be grown in 1956 and number of seed packets distributed in 1955 are given in Appendix C of this report. The woody species

under observation and in production at the Regional Plant Introduction Station are listed in Appendix D.

4. APPLICATION OF RESULTS AND BENEFITS REALIZED

Plant materials made available to research workers through Regional Project NC-7 are finding use in many plant breeding and crop improvement programs.

Two states have reported the use of new alfalfa introductions in different combinations in the development of new synthetic varieties. More of these introductions will be used for specific hybridization as their special characteristics are studied in greater detail.

The Regional Station has received information recently that four exotic corn accessions possess genes for protoplasmic resistance to rust (Puccinia sorghi).

Other exotic corn accessions possess peculiar gene interaction for purple and red aleurone color types that have stimulated one investigator to extend his research to include all possible geographic sites from which corn may be made available.

Research studies in Indiana report progress in the examination of endosperm characteristics of exotic corn types in search of special types of starch or starch derivatives.

Several commercial corn research departments have reported the value and usefulness of exotic corn introductions in contributing vigor, strength of stalk and root sytems as well as disease resistance to the particular synthet varieties where selected parents have been used.

Interest continues in the practical use of the vigorous annual sweet clover, PI 200355 that was summarized in this report last year. Although late in maturity with difficult problems of seed production still to be solved, this annual sweet clover may find an important place in the corn belt.

Although it is difficult to measure the benfits and results that new plant introductions have made to research programs, it is reassuring to see the continuing and expanded use of these plant materials by research workers.

5. WORK PLANNED FOR NEXT YEAR

The planned field production program of the Regional Plant Introduction Station will remain at about the same volume as that of the current year.

The anticipated production by species and number of accessions is shown in the statistical tables in Appendix C of this report.

Substantial increase is anticipated in the number of woody species being grown to meet the planting needs of states cooperating in the evaluation of woody species, in shelter belt and home site plantings in the low rainfall areas of the states in the western part of the North Central Region.

There has been a material increase in the number of state contributing projects for the evaluation of introduced plant materials. We are greatly encouraged by this interest and believe this will result in wider use of

these materials by research workers.

6. PUBLICATIONS OR MANUSCRIPTS PREPARED DURING THE YEAR.

North Central Regional Publication 51, entitled "Disease Resistance in Wild Species of Tomato" by Leonard J. Alexander and Max M. Hoover, was distributed April, 1955.

North Central Regional Publication entitled "Horticultural Characters and Reaction to Two Diseases of the Lycopersicon Accessions in the North Central Region" by M. M. Hoover, L. J. Alexander, E. F. Paddock and A. F. Dodge was distributed January, 1956.

The mimeographed seed list for 1955 will be available for distribution as a section of this annual report on February 1, 1956.

Several articles for Press, Radio, and Technical Journals have been prepared by research workers making use of data obtained from Plant Introductions.

7. APPROVED:

L. C. Smith
Chairman, Technical Committee

E. J. Frolik
Regional Administrative Adviser

REGIONAL RESEARCH PROJECT NC-7

Cooperative among

THE STATE AGRICULTURAL EXPERIMENT STATIONS

of the

NORTH CENTRAL REGION

the

HORTICULTURAL CROPS RESEARCH BRANCH

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

and other governmental and

private agencies which may wish to cooperate

Title:

NC-7 "New Plants" - The Introduction, Multiplication, Preservation and Evaluation of New Plants for Industrial and Agricultural Use.

Objectives:

1. To cooperate in a coordinated program of foreign and domestic plant exploration and introduction to obtain plant materials and to determine their potential value for agricultural, industrial and other uses.

2. To multiply, evaluate and maintain introduced materials adapted to the ecological conditions of the North Central Region through the operation of a Regional Plant Introduction Station and through contracts between the regional station and state experiment stations when advisable.

3. To distribute introduced plant materials of possible value within the North Central Region and to maintain records of their use in the region.

4. To maintain and preserve the germ plasm of field, and horticultural crops and woody plants of economic value to the states in the region.

5. To coordinate the program of introduction, multiplication, evaluation and preservation in the North Central Region with similar programs

in the other regions.

6. To encourage and stimulate the research workers of the North Central Region in the evaluation and use of new introductions in crop improvement programs.

Justification:

With few exceptions our major crops are of foreign origin and these areas of crop origin are the source of new plant materials used for the improvement of these crops. There is a continuing need, also, on the part of agricultural experiment stations and the United States Department of Agriculture for the introduction and development of plants that would be useful in agricultural diversification and for industrial use.

The Section of Plant Introduction of the Agricultural Research Service, United States Department of Agriculture has sent special expeditions to foreign countries to obtain plants of potential value. The emphasis upon plant introduction and adequate testing, particularly for industrial purposes, in the Research Marketing Act of 1946, Public Law 733 (in part, the result of the implicit inclusion of the Andreson Bill) made possible the material increase in scope and usefulness of this work.

The United States Department of Agriculture maintains four plant introduction stations, at Glenn Dale, Maryland; at Savannah, Georgia; at Coconut Grove, Florida; and at Chico, California. The station at Glenn Dale serves as a point of entry and plant quarantine station and to some extent for the maintenance of genetic stocks.

These federal stations are not adequate to meet the needs of the North Central Region because none of them represents the ecological conditions of this region. Hence, it was found highly desirable to establish a regional station in the North Central Region through Federal-State cooperation to implement plant exploration and introduction and to make certain

that plants of potential value for the North Central Region are screened and tested by Experiment Station research workers. Close cooperation between this program and research workers with specific crops should result in greater effectiveness in the utilization of new sources of germ plasm for crop improvement and for industrial purposes. Experience has shown that disease resistance, winter hardiness and other characters greatly desired in plants frequently can be secured only by introduction of varieties from other countries. These varieties may themselves be poorly adapted to the United States, but may serve as valuable parental material for varietal improvement through hybridization.

Organization:

A Regional Technical Committee having the responsibility for the technical guidance of the New Plants Project was appointed.

This committee consists of an Administrative Advisor selected from the experiment station directors of the North Central Region and at least one member of the technical staff of the cooperating states or agencies appointed by the respective directors or administrative officers and the coordinator of the North Central Regional New Crops Project.

The Technical Committee chooses a chairman who convenes a meeting with the approval of the Administrative Advisor once each year or as often as the progress of the project may require. The committee formulates general plans for conducting the research program and designates those portions of the programs to be conducted by each of the cooperating agencies to insure coordination and to assure the most effective use of the resources available to this project. The committee prepares an annual budget showing the need for funds and facilities for conducting project work. The committee is responsible for making a thorough periodic review and evaluation of the accomplishments of this regional project and for

suggesting revisions as these seem desirable during the progress of the work. An annual progress report of the work conducted under this regional project is prepared by the coordinator and the chairman of the committee and recommendations are made for the publication of such research findings as may merit wider dissemination.

Members of the Executive Committee and the National Coordinating and Advisory Committee are chosen annually. Each of these committees consists of the Administrative Advisor, Chairman of the Technical Committee, Coordinator and one additional representative of the Technical Committee chosen from its members. The executive committee serves as an interim advisory group on matters that require attention between the regular meetings of the Technical Committee. The four members of the National Coordinating and Advisory Committee meet with representatives from similar projects in the other regions and represent the North Central Region in the work of this national committee.

The Technical Committee has recommended the appointment of crop subcommittees for the following major crop groups: Fruit crops, Woody plants, Forage crops, Cereals, including corn, and Vegetable crops. These subcommittees for the major crop groups serve as advisory to the Technical committee to stimulate participation in evaluation studies and utilization among research workers and also consider specific problems and develop better coordination and interest in the respective crop groups.

Travel expenses for the Regional Technical Committee, the Administrative Adviser and such sub-committees as may be appointed for special assignments to attend approved meetings are paid from regional 9b3 Travel Trust funds granted to the Iowa Agricultural Experiment Station for this specific purpose.

A coordinator is employed jointly by the Section of Plant Introduction, Agricultural Research Service, United States Department of Agriculture,

the Iowa Agricultural Experiment Station and the Regional Technical Committee.

The coordinator is directly responsible for the increase, evaluation, distribution, and maintenance of the introductions received in the region, either through the facilities of the Regional Station or through contracts with participating states or cooperating agencies.

The coordinator visits cooperating states or agencies annually or more frequently as conditions justify to advise cooperators on developments in the introduction program and to determine the performance of introductions in the states.

On the basis of information obtained through such visits, and through reports by cooperators and initial observations at the Regional Station, a summary of evaluation work and potential uses of new plant materials is prepared annually.

Procedure:

Objective 1:

The Section of Plant Introduction, Agricultural Research Service, is the official agency of the United States Department of Agriculture for conducting plant explorations both foreign and domestic. Plans for explorations, new plant materials to be obtained, and areas to be explored are initiated jointly by the Regional Technical Committee and the Section of Plant Introduction in consultation with other interested agencies. The National Coordinating and Advisory Committee establishes priority and recommends final action to the Section of Plant Introduction. Provision is made for crop specialists from state experiment stations to participate in foreign and domestic plant explorations when feasible. It is recommended that plant collections by individuals and other agencies make use of the identification, inspection and quarantine facilities of the Section of Plant Introduction

and that plant materials obtained in this manner shall be catalogued and tested in the same manner as plant materials obtained through the regular procedure by the Department of Agriculture.

Objective 2:

The Regional Plant Introduction Station for the North Central Region has been established at the Iowa Agricultural Experiment Station, Ames, Iowa, and is responsible for receiving the incoming plant materials to the North Central Region and for the initial propagation and evaluation necessary to insure against loss of the material.

The land, equipment, seed storage facilities and professional and sub-professional staff of the Regional Station are adequate to carry out these functions.

When plant materials are of a nature better adapted to other states because of climate, interest or specialized personnel, contracts or formal projects for their increase, evaluation or maintenance may be made with the cooperating station.

Objective 3:

Records of preliminary performance of introductions are assembled annually by the Regional Station and distributed as seed lists to interested research workers. Seed packets of all accessions on inventory are made available to private and Experiment Station research workers with the restriction only that proper recognition and credit be acknowledged as to the source of the plant material and that its observed special characteristics be made a matter of record by reporting performance observations to the Regional Station.

Objective 4:

The preservation of valuable germ plasm of economic plants is closely integrated with similar programs of other Experiment Station Regions.

The Technical Committee has recommended the allocation of funds to selected state agricultural experiment stations of the North Central Region for the preservation of collections of horticultural and field crops having special value and genetic significance to research workers with these crops. These collections cover a wide array of plant species and though an integral part of the Regional New Crops program, they are permanently located at the selected Experiment Stations and maintained under the administrative guidance of the sponsoring station. Breeding stocks from these centers are made available to all research workers of the region upon request.

A central seed storage headquarters for the region with humidity and temperature held at the optimum level for longevity of seed stocks is maintained at the Regional Station at Ames. All new plant introductions are stored in this facility and the privilege of seed storage is extended as a service to research workers of the North Central Region to place stocks of their valuable germ plasm in this storage if they do not have suitable facilities at their own state locations.

Objective 5:

A National Coordinating and Advisory Committee consisting of representatives of the four Experiment Station regions serves as the coordinating and advisory council for the National Program.

The National Central Region is represented on the National Committee by the Administrative Adviser, the chairman of the Technical Committee, the Coordinator and a member of the Regional Technical Committee chosen

by its members. The duties of the National Committee are:

1. To review the current program and transmit to the four Regional Associations of Directors such recommendations and suggested policies as it may deem desirable for the operation and improvement of the National program.

2. Consider requests and establish priorities for foreign and domestic plant exploration within the limits of funds provided.

3. To have its secretary prepare reports to be submitted to the four regional Associations of Directors and to the Section of Plant Introduction and to prepare such publications as may be necessary to facilitate the exchange of plant materials among regions or otherwise improve the national and regional program.

Objective 6:

The Technical Committee has recommended the appointment of sub-committees for Fruit crops; Woody plants; Forage crops; Cereals, including corn; and Vegetable crops. The function of the sub-committees for the major crop groups is to advise the Technical Committee on specific problems concerning the evaluation and utilization of introduced plant materials and to stimulate and coordinate the research work with these crops within the North Central Region.

Duration: Continuous.

Budget Requirements and Current Allocation of Funds:

Budget:

The NC-7 Regional Project receives Federal (9b3) and state funds for its operations. 9b3 funds constitute approximately 70 percent of the total project budget. These 9b3 funds are disbursed approximately as

follows: Regional Station operations, including seed contracts, 70 per cent; allocation to states for formal projects concerning maintenance and preservation of germ plasm, 24 percent; and Travel Trust and Publication Trust funds, 6 percent.

Federal funds obtained from the Section of Plant Introduction comprise 15.4 percent of the total budget of the regional project and are used entirely for salaries of professional employees of the Regional Station.

State funds amount to 14.2 percent of the total project budget and are used in part for Regional Station Operations, secretarial and professional salaries at the Regional Station.

The attached chart shows the source and amount of these three types of funds for the present fiscal year and the major disbursement classes.

BUDGET REQUIREMENTS AND CURRENT ALLOCATION OF FUNDS

Illinois: Maize tester stocks	$2,500
Indiana	
Iowa: Regional Station	35,800
Travel Trust, Technical Committee	1,500
Publication Trust	1,500
Kansas: Native grasses	2,000
Michigan	
Minnesota: Cereal Diseases	500
Stone Fruits	1,000
Missouri	
Nebraska: Native grasses	1,200
Alfalfa preservation	500
North Dakota: Flax rust preservation	500
Ohio: Tomato preservation	1,000
Pear preservation	500
South Dakota: Hardy fruit preservation	2,500
Wisconsin	
	$51,000

9b3: Regional Station, Travel Trust, Publication Trust	$38,800.00
USDA	11,148.00
State	10,302.00
	$60,250.00

	9b3	USDA	State	
Personal Services:				
Professional		$11,148.00	$6,502.00	
Secretary			2,000.00	
Labor	$9,990.00			
Capital Improvements	13,852.81			
Regional travel	1,000.00			
Travel trust	1,500.00			
Publications trust	3,500.00			
Operations, including seed contracts and supplies	8,957.19		1,800.00	
	$38,800.00	$11,148.00	$10,302.00	$60,250.00

Approvals:

This revised project outline has been submitted to the Directors of the North Central Region and approved by them as a regional project to be recommended to the Committee of Nine.

Administrative Adviser	Chairman, North Central Regional Research Committee
	Chairman, North Central Directors

This revised project outline is recommended to the Secretary of Agriculture for approval as a regional project under section 9b3 of Public Law 733.

Chairman, Committee of Nine	Chief, State Agricultural Experiment Stations, Division of Agricultural Research Service, U. S. D. A.

4/25/55

CROP DISTRIBUTION

Plant Introduction	Glenn Dale Storage	:North-eastern Region	:Southern Region	:North Central Region	:Western Region
Group I. Field Crops, Grasses and Legumes					
Aegilops				x	
Aeluropus					x
Agropyron				2	1
Agrostis		3		1	2
Alopecurus				2	1
Andropogon			1		2
Aristida	x				
Arrhenatherum		1	3		2
Arundinella			x		
Astragalus				2	1
Astrebla			x		
Avena			x		
Bothriochloa			x		
Brachypodium					x
Briza			x		
Bromus		3		1	2
Cajanus			x		
Calamagrostis					x
Canavalia			x		
Cassia			x		
Cenchrus			x		
Chloris			x		
Chrysopogon			x		
Cicer			x		
Coronilla		3	4	2	1
Crotalaria			x		
Cymbopogon			x		
Cynodon			1		2
Cynosurus					x
Dactylis		2		2	1
Dactylotenium	x				
Desmodium			x		
Dichanthium			x		
Digitaria			x		
Dolichos			x		
Echinochloa	x				
Ehrharta			2		1
Elymus					x
Eragrostis			1		2
Euchlaena				x	
Festuca		3	2	4	1
Haynaldia	x				
Hedysarum	x				
Holcus	x				
Hordeum					1
Hyparrhenia			1		2
Indigofera			1		2
Kochia	x				
Lathyrus		3		1	2
Lens	x				

x = all of sample to that location; 1, 2, etc. indicates 1st, 2nd, etc. priority.

CROP DISTRIBUTION

Plant Introduction	Glenn Dale Storage	North-eastern Region	Southern Region	North Central Region	Western Region
Group I. Field Crops, Grasses and Legumes					
Leptochloa			1		2
Leucaena			1		2
Lolium		2	3	2	1
Lotus		1		1	2
Lupinus			1		2
Medicago		2		1	2
Melica	x				
Melilotus				1	2
Onobrychis			2	3	1
Ornithopus			x		
Oryzopsis					x
Panicum			2	1	3
Paspalum			x		
Pennisetum			1		2
Phacelurus digitatus				x	
Phalaris		1	2	2	1
Phaseolus Mung			1		2
Phleum		1		1	
Poa		2		3	1
Pueraria	x				
Scorpiurus				x	
Setaria			2	1	3
Sorghastrum			x		
Sorghum			1		2
Spartium	x				
Sporobolus	x				
Stipa					x
Stizolobium			x		
Tephrosia			x		
Themeda			x		
Thermopsis	x				
Tragopogon					x
Trifolium		1	2	1	2
Trigonella				x	
Trisetum	x				
Vicia			1		2
Vigna			x		
Zea		2		1	

CROP DISTRIBUTION

Plant Introduction	Glenn Dale Storage	North-eastern Region	Southern Region	North Central Region	Western Region
Group II. Fruits and Vegetables (Tree and small fruits of general interest assigned to all regions).					
Allium ascolonicum L. (shallot)			x		
Allium cepa L. (onion)		2		1	3
Allium porrum L. (leek)	x				
Apium graveolens L. (celery)		1		2	
Arachis hypogaea L. (peanut)			x		
Asparagus officinalis L.(asparagus)	x				
Asparagus species		x			
Beta vulgaris L. (beet)		2		1	
Beta vulgaris var. cicla L. (chard)	x				
Brassica chinensis (Chinese cabbage)		2	1		3
B. hirta (white mustard)	x				
B. juncea L. (Chinese mustard)	x				
B. napus L.	x				
B. napus var. napobrassica L. (rutabago)	x				
B. nigra L. (black mustard)	x				
B. oleracea var. acephala D.C.(kale)	x				
B. oleracea var. botrytis(cauliflower)		x			
B. oleracea var. botrytis (broccoli)		x			
B. oleracea var. capitata L. (cabbage)		2	1		3
B. oleracea var. gemmifera (Brussels sprouts)		x			
B. oleracea var. gongylodes L. (kohlrabi)	x				
B. pekinensis (celery cabbage)		2	1		3
B. rapa L. (turnip)	x				
Capsicum frutescens L. (pepper)		2	1		3
Citrullus vulgaris (watermelon)			1		2
Cucumis melo L. (muskmelon)		2	1		2
Cucumis sativus L. (cucumber)		2	3	1	2
Cucurbita maxima Duchesne (squash)		1		2	3
Cucurbita moschata Duchesne (cushaw)		1		2	3
Cucurbita pepo L. (pumpkin)		2		1	
Daucus carota L. (carrot)		3		1	2
Hibiscus esculentus L. (okra)			x		
Ipomoea batatas L. (sweet potato)			x		
Lactuca sativa L. (lettuce)		3		2	1
Lycopersicon esculentum (tomato)		2		1	3
Pastinaca sativa (parsnip)	x				
Petroselinum crispum (parsley)	x				
Phaseolus lunatus L. (lima bean)					x
Phaseolus vulgaris L. (bean)		3		2	1
Pisum sativum L. (pea)		2		1	3
Raphanus sativus L. (radish)	x				
Rheum rhaponticum L. (rhubarb)				x	
Solanum melongena L. (eggplant)		1	2		
Spinacia oleracea L. (spinach)		3		1	2

CROP DISTRIBUTION

Plant Introduction	Glenn Dale Storage	North-eastern Region	Southern Region	North Central Region	Western Region
Group III. Ornamental, Oil and Special Crops					
Amaranthus	x				
Ammi	x				
Anethum	x				
Anthemis	x				
Antirrhinum	x				
Asclepias	x				
Atriplex	x				
Barbarea	x				
Calendula	x				
Camelina	x				
Carthamus					x
Chrysanthemum	x				
Cichorium	x				
Coriandrum	x				
Cuminum	x				
Cyamopsis			x		
Delphinium	x				
Dianthus	x				
Eruca	x				
Foeniculum	x				
Glycorrhiza	x				
Guizotia	x				
Helianthus				1	2
Heliopsis	x				
Impatiens	x				
Ipomoea	x				
Lepidium	x				
Luffa	x				
Mentha				2	1
Momordica	x				
Nigella	x				
Ocimum	x				
Perilla			x		
Petunia	x				
Phlox	x				
Physalis	x				
Picris	x				
Pimpinella	x				
Plantago	x				
Portulaca	x				
Rheum	x				
Ricinus			x		
Rumex	x				
Satureja hortensis	x				
Sesame			x		
Stachys	x				
Tagetes	x				
Zinnia	x				

Table 1.
Genera and species, cumulative total of accessions received, accessions on the 1955 seed list, accessions to be grown 1956 and number of accessions distributed during 1955.

Genera and species	Cumulative total of accessions Received	Seed list 1955	To be grown 1956	Distributed 1955
Group 1. Grasses and field crops				
Aegilops	86	82	4	24
Agropyron	117	46	71	94
Agrostis	41	17	24	8
Alopecurus	4	2	2	-
Apera	2	-	2	-
Arrhenatherum	2	2	-	6
Brachypodium	12	-	12	3
Bromus	166	66	100	125
Calamagrostis	7	-	7	-
Cynosurus	1	-	1	-
Dactylis	123	112	11	253
Danthonia	1	-	1	-
Echinochloa	11	3	8	2
Elymus	1	-	1	-
Euchlenea	1	1	-	-
Festuca	42	33	9	59
Helianthus	139	135	4	155
Hordium	6	-	6	1
Lolium	44	42	2	28
Panicum	108	102	6	93
Phacelurus	1	1	-	1
Phalaris	52	45	7	14
Phleum	31	15	16	20
Poa	31	17	14	15
Setaria	71	63	8	22
Sorghum	11	10	1	42
Zea	1373*	1176	28	3091
Genera 27 Totals	2484	1970	345	4056

Table 1. SUMMARY

Group	Genera	Cumulative total of accessions Received	Seed list 1955	To be grown 1956	Distributed 1955
I. Grasses & Field Crops	27	2484	1970	345	4056
I. Legumes	11	723	488	235	614
II. Fruits & Veg.	17	4613	4174	411	4076
III. Ornamental, Oil & Special Crops					
a. Herbaceous	3	19	9	10	1
b. Woody	1	5	1	4	0
TOTALS	59	7844	6642	1005	8747

Table 1 (continued)

Genera and species	Cumulative total of accessions Received	Seed List 1955	To be grown 1950	Seed Packets Distributed 1955
Group 1. Legumes				
Astragalus	9	4	5	16
Coronilla	5	-	5	-
Glycine	1	-	1	5
Lathyrus	67	56	11	109
Lotus	44	21	23	48
Medicago	246	198	38	82
Melilotus	126	71	55	181
Onobrychis	18	7	11	27
Scorpiurus	1	1	-	3
Trifolium	117	60	57	118
Trigonella	89	70	19	25
Totals	723	488	235	614
Genera - 11				
Group II. Fruits and Vegetables				
Allium	148	72	76	56
Apium	52	32	20	32
Asparagus	9	-	9	16
Beta	165	134	31	31
Cucumis	298	282	16	348
Cucurbita	442	428	14	100
Daucus	153	103	50	244
Fragaria	2	-	2	-
Lactuca	144	125	19	11
Lycopersicon	1282	1250	6	343
Malus	6	-	6	-
Phaseolus	1104	996	108	1580
Pisum	628	614	14	1182
Prunus	4	-	-	-
Pyrus	4	-	-	-
Rubus	20	-	-	-
Spinacea	152	138	14	133
Totals	4613	4174	411	4076
Genera - 17				
Group III Ornamental, Oil and Special Crops				
A. Herbaceous				
Helianthus sp.	1	1	0	1
Mentha	13	7	6	0
Rheum	5	1	4	0
Totals	19	9	10	1
B. Woody				
Rosa	5	1	4	0
Totals	24	10	14	1
Genera - 4				

Appendix B

Woody plant species under observation or in production at the Regional Plant Introduction Station

	Hold-over	Propa-gation	Liners	Shipping 1956	Shipping 1955
Abelia sp. PI 205643		x			
Abeliophyllum disticum		x			
Acanthopanax sessiliflorus		x			
Acer davidii PI 105646			x		
Acer ginnala					x
Acer mono			x		
Acer truncatum PI 18578	x				
Amorpha brachycarpa			x		
Atraphaxis buxifolia		x			
Berberis julianae					x
Berberis Sargentiana	x				
Betula davurica PI 73057				x	
Betula mandschurica PI 102740	x				
Betula platyphylla PI 190607	x				
Buxus microphylla Koreana	x				
Callicarpa dichotoma PI 159903	x				
Callicarpa japonica	x				
Calycanthus fertilis				x	
Caragana aurantica nana			x		
Caragana frutex globosa		x			
Caragana maximowicziana		x			
Caragana pygmaea					x
Caragana sp. PI 107663	x				
Caryopteris clandonensis				x	
Caryopteris incana				x	
Caryopteris mongolica				x	
Clethra alnifolia PI 190213			x		
Colutea arborescens		x			
Coriaria japonica	x				
Cornus pumila		x			
Cornus stolonifera coloradensis		x			
Cornus stolonifera nana				x	
Corylopsis spicata			x		
Cotoneaster adpressa					x
Cotoneaster melanocarpa laxiflora		x			
Cotoneaster nitens		x			
Cotoneaster racemiflora	x				
Cotoneaster racemiflora soongorica		x			
Cotoneaster sp. PI 210540		x			
Cyrilla racemiflora PI 102244	x				
Elsholtzia Stauntoni	x				
Ephedra nevadensis		x			
Ephedra sp. PI 222051	x				
Euonymus bungeana pendula		x			
Euonymus kiautschovica				x	
Euonymus maackii		x			
Euonymus nana Turkestanica				x	
Exochorda Giraldii		x			
Forsythia Arnold's Dwarf				x	
Forsythia ovata				x	
Hedera helix baltica	x				
Hedera helix minimi 126899	x				
Larix siberica		x			
Ligustrum quihoui 38807			x		
Ligustrum vulgare 107630				x	

Woody plants (continued)

	Hold-over	Propa-gation	Liners	Shipping 1956	Shipping 1955
Lonicera macrophylla		x			
Lonicera syringantha		x			
Maackia amurensis			x		
Magnolia Kobus	x				
Mahonia aquifolium		x			
Malus baccata mandshurica 213351				x	
Pachystima Canbyi				x	
Philadelphus sp. 164264		x			
Physocarpus monogynus					x
Photinia villosa	x				
Platanus acerifolia					x
Populus berolinensis 26614	x				
Populus canadensis erecta	x				
Populus canadensis eugeneii 199714	x				
Populus gelrica 199716	x				
Populus generosa 62111	x				
Populus robusta 199712					x
Populus alba x P. grandidentata	x				
Populus sp. 199724	x				
Prinsipia senensis 213352			x		
Pyrus ussuriensis	x				
Ribes diacanthum				x	
Rosa sp. 204911			x		
204912			x		
204913			x		
204914			x		
Rubus deliciosus	x				
Rubus sp. 206914			x		
206915			x		
209511			x		
212795			x		
Salix irrorata	x				
Salix matsudana tortuosa	x				
Securinega suffruticosa		x			
Staphylea Bumalda		x			
Styrax japonica					x
Viburnum opulus compactum 211847		x			
Vitex negundo incisa	x				
Genera 50 Items 93	29	25	17	14	8