MEMORANDUM OF AGREEMENT

Between

P. R. MARKLEY, INC. & HIS ASSOCIATES,

CONTROL OF THE WASHINGTON

And

NORTH CAROLINA AGRICULTURAL EXPERIMENT STATION

This agreement between the above listed agencies is for the purpose of conducting research on a project entitled "Facilities for Off-Farm Drying and Storage of Small Grain and Corn."

The North Carolina Agricultural Experiment Station has recognized the need for doing some research work along this line but has been unable to because of lack of sufficient funds. The offer of cooperation by P. R. Markley, Inc. makes it possible to undertake this research and it is believed to be to the public interest to accept this cooperation.

The agreement is outlined as follows:

- 1. The North Carolina Agricultural Experiment Station supply one full time engineer, his transportation and travel expenses. This engineer will be the leader of the project and will be responsible for carrying out the procedure as outlined in the project. He will be responsible for developing plans, aid in supervising construction, and conducting tests of research nature.
- 2. P. R. Markley, Inc. & His Associates will finance the complete construction of the plant and the purchase and installation of all the equipment and supplies necessary for the operation of this plant. He will supply all labor in connection with its operation. He agrees to permit the project leader to have supervision of the plant when tests are conducted and to draw such samples as may be required.
- 3. The Production Marketing Administration is to assist as far as possible in cerrying out this research project.
- 4. The Farm Structures Division, Agricultural Research Administration, United States Department of Agriculture, agrees to supply advisory agricultural engineering service insofar as possible when requested.
- 5. This research project will result in information and data of scientific interest. The North Carolina Agricultural Experiment Station is responsible for making such information available to the public; therefore, it reserves the privilege of publishing the results of this research project. Decision as to when, how and where such publication shall take place is to be made by the North Carolina Agricultural Experiment Station. Results of the research are to be made available at any time to the cooperative agencies but they are in no way to publish the results without written permission of the North Carolina Agricultural Experiment Station. In the publication of any results in any form, credit must be given to all cooperating agencies.

- 6. The name of the North Carolina Agricultural Experiment Station or any of its staff or agencies of the United States Department of Agriculture and its staff are not to be used in any advertisement sponsored by P. R. Markley, Inc. & His Associates unless written permission is secured.
- 7. Effort will be made to complete one plant by the beginning of the corn harvest season 1948, but it is agreed that none of the parties bind themselves for completion of their part of work on the project by that time.
- 8. It is intended that the project shall apply to one installation unless the project leader decides that a second installation embodying material differences would be desirable. P. R. Markley, Inc. & His Essociates is permitted to use the plans which are developed on any number of installations.
- 9. P. R. Markley, Inc. & His Associates do not have exclusive rights to any of the plans developed under this project.

Signed

P R Markley, Inc.

G. T. Scott, Production Marketing
Administration

E. A. Ellison, Production Marketing Administration

R. W. Cummings, Associate Director North Carolina Agricultural Experiment Station

MEMORANDUM OF AGREEMENT

Between

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PRODUCTION MARKETING ADMINISTRATION
And
NORTH CAROLINA AGRICULTURAL EXPERIMENT STATION

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Signed

P. R. Markley, The

G. T. Scott, Production Marketing

Administration

E. A. Ellison, Production Marketing Administration

R. W. Cummings, Associate Director North Carolina Agricultural Experiment Station C O P

UNITED STATES DEPARTMENT OF AGRICULTURE Production and Marketing Administration Grain Branch Washington 25, D. C.

July 23, 1948

Mr. P. R. Markley Vice President and General Manager P. R. Markley, Inc. Lafayette Building Philadelphia 6, Pa.

Dear Mr. Markley:

It is regretted that there has been some delay in reply to your letter of July 9, regarding the proposed memorandum of agreement providing for research on grain storage and drying.

The agreement has been viewed by officials in the Department, and it is believed that nothing would be gained by having someone in the Production and Marketing Administration sign it. The responsibility for the work is divided between the North Carolina Experiment Station and your firm; therefore, it is suggested that the agreement be redrafted with that thought in mind and submitted to the North Carolina Experiment Station in order that the construction of facilities may get underway without further delay.

You may rest assured that the Grain Branch will stand in readiness to assist in connection with this undertaking so far as our facilities will permit. In case your firm or the North Carolina Experiment Station wishes to confer with representatives of the Grain Branch or to have us participate in demonstrations at the drying plant we shall be pleased to do so. We are vitally interested in this important undertaking, and believe it will tend to stimulate interest in grain drying and storage in North Carolina and adjacent states.

Very truly yours,

E. A. Ellison Project Leader UNITED STATES DEPARTMENT OF AGRICULTURE Production and Marketing Administration Grain Branch Washington 25, D. C.

July 29, 1948

To:

State PMA Chairman State College Station Raleigh, North Carolina

From:

Director, Grain Branch

Subject:

Memorandum of Agreement Between P. R. Markley, Inc., and the North Carolina Experiment Station

This is with further reference to your telephone conversation of July 27 with our Mr. Wilson C. Tucker, regarding the above-described agreement.

We are attaching a copy of a letter to Mr. P. R. Markley, signed by Mr. E. A. Ellison, which explains our position regarding cooperation under the agreement. You will note in the last paragraph of our letter to Mr. Markley that the Grain Branch stands ready to assist in any way possible with the development and operations of the project insofar as our facilities will permit.

Please rest assured that you have the support and cooperation of the Grain Branch in this important undertaking. We appreciate the splendid cooperation which you and the other members of the North Carolina USDA Council displayed in the study of adequacy of storage in your State. We are looking forward to a report of the analysis of this work by Mr. Parker and Mr. Converse of BAE.

Enclosure:

/s/ Leroy K. Smith

Minutes of State Committee meeting June 15, 1948. Members present were G. T. Scott, Chairman, W. A. Kitchen, A. B. McRae, and H. A. Patten, Secretary. Cthers present were W. C. Tucker and E. A. Ellison, Grain Branch, Washington; P. W. Markley and Mr. Brown, of P. R. Markley, Inc., Philadelphia; G.W.Giles, Agr. Eng., State College; Julian E. Mann, FCIC, and H. D. Godfrey, State Office, PMA.

Re: Grain Drying Facilities in Eastern North Carolina.

Mr. Tucker stated that Mr. Markley was interested in installing some corn drying facilities in Eastern North Carolina for the purpose of putting corn in better condition for shipment to Northern markets. Mr. Markley had discussed the need for such facilities with the Grain Branch representatives who had invited him to attend this meeting.

Mr. Markley stated that under present conditions the dealer buys high moisture corn, which is shipped North and the farmer takes a loss with a low price, then buys feed later in the year at higher prices. He is interested in installing grain storage facilities which will be practical for Eastern North Carolina conditions and will cooperate with the Grain Branch and Experiment Station in developing the best method for drying corn in this area. Mr. Giles stated that some experimental work is underway on drying grain in this State, with a view to assisting farmers to install drying facilities and to equip present storage with drying apparatus.

Mr. Markley stated that certain basic problems need to be corrected before the outlets for Eastern North Carolina corn will make full use of the corn production. These include (1) reduction in the present Northbound freight rate from 64% to equal the Southbound freight rate of 35¢, (2) weevil infestation is a drawback, (3) drying corn is a big problem with hybred corn. The Pennsylvania Railroad has large drying equipment in Philadelphia, which usually operates at a loss. One drying outfit is located at Elizabeth City, where the freight rate is 44%.

The principal need is for farm drying apparatus and also drying facilities at loading stations. The Markley Company is willing to install equipment at a good buying point in North Carolina, but it is a great advantage to the farmer and the buyer to have drying and storage facilities located on the farm. The South has a marketing advantage in being able to put corn on the market earlier than the Midwest, provided it can be dried. The problem is to process corn before shipment, not after arrival at destination. Eastern Maryland is making good use of local drying facilities for corn.

Mr. Giles: We have available for distribution plans for drying small grain in tobacco barns.

Mr. Markley: By five years from now we should have a good volume of corn dried in tobacco barns, cribs, and other dryers on farms, at loading points, as well as at the terminal markets at Norfolk, Baltimore and Philadelphia. We now have very poor grain marketing facilities and improvement is badly needed. What we need is not so much a few big grain elevators, but farm and community drying facilities distributed over the corn producing area.

Mr. Giles: We need to go along carefully on this program.

Mr. Markley: That is true; we do not know just what the market outlets for North Carolina corn will be over a period of years.

Mr. Scott: We certainly need facilities for drying on farms as well as at plants such as those at Lumberton and Elizabeth City. It is important that we have the benefit of all the experience and engineering that is available in installing these facilities.

Mr. Giles: This program can be summarized as follows:

- (1) We all recognize the need for drying facilities.
- (2) Mr. Markley is willing to install drying plants at such points as Tarboro and Dunn, where he would purchase corn for shipment.
- (3) The Grain Branch is willing to assist as far as possible on the engineering features of these installations.
- (4) The North Carolina Experiment Station will oversee the construction and collect and make available the research data on the operation of the facilities.
- (5) The Experiment Station is in charge of such data, which will be utilized to the best advantage of the farmer, industry and the Experiment Station.

The meeting adjourned for lunch at 12:30 and met again at 1:30.

Re: Memorandum of Agreement with FCIC

Mr. Julian Mann, State Director of FCIC, met with the Committee and reviewed Crop Insurance Memorandum 107, "1949 State and County Crop Insurance Agreements." He presented the comparison of the compensation which county offices would receive under the 1948 program and the proposed 1949 agreements. After considerable discussion and study of the proposed agreements the committee decided to defer action on the Memorandum of Understanding until after the meeting could be held with County Committees and the Committees had reached a decision as to whether they would enter into the 1949 agreement with FCIC. It was decided to invite the County Committee and Chief Clerks from each of the nine counties with crop insurance in 1948 to meet with the State Committee at 10:00 A.M. on June 22. Mr. Mann stated that FCIC would be favorable to continuing operation of the insurance program by FCIC as one phase of the experimental insurance program, and that he would recommend to County Committees coming in that they do not enter into the agreement in 1949, but that if one or more counties decided to assume the responsibility for operating the 1949 program in the county, then the State Committee would feel obligated to execute the Memorandum of Understanding between the State PMA Committee and FCIC.

The Secretary was instructed to write the Crop Insurance counties authorizing the Committee and Secretary to attend the meeting on June 22 with travel and per diem to be paid by the County Association at the usual rate.

Re: Meetings on PMA Programs.

H. D. Godfrey discussed with the Committee the need for meetings with County Committees and Secretaries to discuss completion of the 1948 ACP and plans for 1949 ACP. The Committee decided to schedule a series of meetings for the week June 21-25 as follows:

June 21 - Washington, N. C.

22 - Fayetteville

23 - Durham

' 24 - Statesville

25 - Asheville

Mr. Godfrey was instructed to prepare a letter to County Committees and Secretaries and County Agents relative to attending these meetings, authorizing mileage and per diem and urging full attendance of committeemen.

> H. A. Patten Secretary

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- 8. P. R. Markley, Inc. & His Associates do not have exclusive rights to any of the plans developed under this project.

Signed

R. W. Cummings, Associate Director North Carolina Agricultural Experiment Station August 6, 1948

Dr. R. W. Cumnings Associate Director Agricultural Experiment Station Patterson Hall Campus

Dear Dr. Cummings:

I am enclosing five copies of the Memorandum of Agreement between P. R. Markley, Inc., P.M.A. and our station for the research work on off-the-farm drying equipment. All five copies have been signed by Markley and Scott. They are now ready for your signature. You will note from copies of letters attached to this Memorandum that it is impossible for the P.M.A. Administration in Washington to sign the Agreement but they are willing to assist us in any way possible. After signing this Agreement, provided of course that it is satisfactory to you, you may keep one copy and roturn the remainder to me for distribution to the interested parties. If there are any questions concerning this please call me.

Thanking you, I am,

Yours very truly,

G. W. Giles, Head Dept. of Agricultural Engineering

GWG: wb

Enclosures (5)

P. R. MARKLEY, INC.

Grain Merchants

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JAMES E. BENNETT & CO.

AT ALL PRINCIPAL CITIES

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NEW YORK PRODUCE EXCHANGE
BALTIMORE CHAMBER OF COMMERCE
MINNEAPOLIS CHAMBER OF COMMERCE

LAFAYETTE BUILDING...PHILADELPHIA 6, PA.....TELEPHONE: LOMBARD 3-6838

July 29, 1948

Mr. G. W. Giles, Head
Department of Agricultural Engineering
North Carolina State College of Agriculture
& Engineering

University of North Carolina Raleigh, North Carolina

Dear Mr. Giles:

I am returning the signed copies of the agreement to which you referred in your letter of July 22.

I am writing also to Mr. Usry, and I am enclosing a copy of my letter to him for your information.

I regret very much that I just plain overlooked signing these papers before sending them on, and that is the reason for the lack of signature when you received them from me.

Yours very truly,

P. R. MARKLEY, INC.

P. W. Markley

Vice President & General Manager

FWM/dee Enc.

July 29, 1948

Mr. S. H. Usry, Asst. Research Professor Department of Agricultural Engineering North Carolina State College of Agriculture and Engineering University of North Carolina Raleigh, North Carolina

Dear Mr. Usry:

Thanks for your letter of July 28.

The procedure you have outlined is satisfactory.

There is one point I think we are a little mixed up on, and that is we plan to set up this project at Tarboro, North Carolina, not at Dunn initially.

It is my plan to organize a corporation known probably as the Tarboro Grain Company to handle the furtherance of the effort and to engage in the commercial grain business in that city.

Toward this end, I am writing our attorney, Mr. J. Melville Broughton, within a few days requesting him to do the necessary corporate work.

Do not let the monexistence of the corporation slow you up, however, because Markley will carry on in the interim.

If it is necessary to rewrite the agreement in favor of the new company instead of us, this, of course, can be taken care of in good time.

I hope to see you during the third week in August.

Now I have a suggestion to make to you, which you may or may not wish to follow.

By coincidence I happened to run into a Mr. Jondreau of the Great Lakes Steel Corporation, Suite 910, Ring Building, Washington 6, D.C., in Mr. Ellison's office a couple of days ago.

His company is very much interested in developing storage structures, but when I mentioned conditioning units in conjunction with the storage units, he showed much interest.

I have a feeling that if you were to approach him with your problem, I

Mr. S. H. Usry Page 2 July 29, 1948

think you might receive some very worthwhile help from their engineers.

In addition to all this, I was talking to Mr. MacArthur of the Grain Branch of P.M.A. yesterday, and he told me that he, Mr. Ellison, and others are holding meetings starting immediately in the grain storing deficit areas with this same objective in mind.

I cannot help but feel that with all of this effort being put forth, something very worthwhile is bound to evolve.

Please bear in mind while attempting to design this structure that we must have something with which we can receive, dry, store, and finally load to cars and trucks in order to do a complete job.

We already have the loader, which consists of a blower, well built and well powered and capable of loading 1,200 bushels an hour; so you don't have to worry about the final stage of the operation.

The rest is up to you, and I look forward to having your advices as the work progresses.

If we can be of any further help to you at this stage of the game, please let us know.

Yours very truly,

P. R. MARKLEY, INC.

P. W. Markley Vice President & General Manager

PWM/dee

Mr. P. W. Markley Vice President & General Manager P. R. MARKLEY, INC. Lafayette Building Philadelphia 5, Pennsylvania

Dear Mr. Markley:

Mr. Giles has informed me that the research project dealing with your drying plant has been approved by our Director and by the Office of Experiment Stations in Washington, D. C. The project outline was returned to us a week ago with all signatures completed. He has also informed me that the Memorandum of Agreement is about to be completed and signed by all concerned and suggests that I get ready to begin work on the project. My tentative procedure is outlined as follows.

- Consult with Markley and his representative in Dunn concerning the capacity of the plant and any other ideas that they might advance.
- 2. Inspection trip throughout the South visiting similar installations. The itinerary is now being arranged in cooperation with Harry Dearing, Agricultural Engineer with the Tennessee Iron, Coal & Railroad Company who is very familiar with all of these plants. This trip will probably be taken during the middle of August.
- Design and draw up plans and write suggestions for your plant.
- Consult with Markley and P.M.A. Engineers over the completed plans and work out the details of handling the construction.

I would appreciate having your comments on the above procedure. I am particularly anxious to get your suggestions

Mr. P. W. Markley Page 2 July 28, 1948

on Number 1 on the preceeding page. I trust that this procedure is satisfactory to you and I hope that we can really get going on this project and get a plant up this fall.

Thanking you for your fine cooperation, I am, Yours very truly,

S. H. Usry
Asst. Research Professor
Dept. of Agricultural Engineering

SHU: wb

Sintet reclum July 27, 1948 Mr. P. W. Markley Vice President & General Manager P. R. Markley, Inc. Lafayette Building Philadelphia 6, Pa. Dear Mr. Markley: I have your letter of July 26 and hasten to reply to same. I am a little disappointed in the fact that we are moving along very slowly with this project. As I understand it. it is impossible for Mr. Ellison to sign the Memorandum of Agreement but it is P.M.A.'s intention to cooperate to the limit. I note also that you have not signed the Memorandum of Agreement and I am wondering if you would not care to do so. I believe there are five copies of this memorandum to be signed. If you care to do this and return them to me, I will see that our director signs the copies promptly and will return one or more to you for your file. This is in no way a legal document but is intended more as a gentlemen's agreement so that each will understand what is expected of him. We have an engineer, Mr. S. H. Usry, who is all ready to go on this project. We have arranged for Mr. Usry and our Mr. John W. Weaver, Jr., who is in charge of all drying work in our department, to take a trip through some of the southern states to inspect some of the present drying plants that have been built and are in operation. We feel that this is the first step in order to design and build a satisfactory drying plant. I know that this is a slow start but I believe that it will pay off in the end. I doubt if we will be able to complete a plant in time for this corn harvest season, but we are going to do our darndest and may get in on the tail end of the harvest. I think that one of the next things to do is to have our men contact and become acquainted with your representative in Dunn. If you will be so kind as to supply us with his name and give us authority to contact him, our men will make a trip down there to see him. Mr. Weaver and Mr. Usry have been able to arrange their inspection trip for the second and third week in August and I hope that they will be back here in order to meet with you when you take your trip around through Carolina. I hope also that you will arrange to pay us a visit. Hoping to hear from you in the near future, I am Yours very truly, G. W. Giles, Head Department of Agricultural Engineering GWG:oc Copy To X. H. Way

P.R.MARKLEY. INC.

Grain Merchants

PRIVATE WIRES TO

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AT ALL PRINCIPAL CITIES

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BALTIMORE CHAMBER OF COMMERCE

MINNEAPOLIS CHAMBER OF COMMERCE

MEMBER

LAFAYETTE BUILDING...PHILADELPHIA 6, PA.....TELEPHONE: LOMBARD 3-6838

July 26, 1948

North Carolina State College of Agriculture and Engineering University of North Carolina Raleigh, North Carolina

Attention: Mr. G. W. Giles, Acting Head Dept. of Agricultural Engineering

Dear Mr. Giles:

I am returning to you all the papers that you sent to me along with Mr. Ellison's letter.

I think that it would be well for us to get going on this project so that we don't waste a lot of time and find that another year has slipped by and nothing has been accomplished.

Just tell us what you want us to do, and we will get on with it.

I probably will be spending some time in Carolina around the third or fourth week in August, at which time I expect to be traveling around the State rather extensively with Mr. Howard of the A.C.L.

Yours very truly,

P. R. MARKLEY, INC.

P. W. Markley

Vice President & General Manager

PWM/dee

MEMBER

C - 2 - 0

CHICAGO BOARD OF TRADE

COMMERCIAL EXCHANGE OF PHILADELPHIA

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LAFAYETTE BUILDING...PHILADELPHIA 6, PA.....TELEPHONE: LOMBARD 3-6838

July 9, 1948

North Carolina State College of Agriculture and Engineering University of North Carolina Raleigh, North Carolina

Attention: Mr. G. W. Giles, Acting Head
Dept. of Agricultural Engineering

Dear Mr. Giles:

In accordance with the instructions contained in your letter of July 5, we have sent the five copies of the final draft of the Memorandum of Agreement referred to along to Mr. E. A. Ellison of the Grain Branch of P.M.A. after approving them and signing them.

Please keep us informed concerning the next step in this project.

Thanks for your very fine cooperation; we are happy to be working with you.

Yours very truly,

P. R. MARKLEY, INC.

P. W. Markley

Vice President & General Manager

PWM/dee

July 9, 1948

Mr. E. A. Ellison Grain Branch, P.M.A. United States Dept. of Agriculture Washington, D. C.

Dear Mr. Ellison:

The enclosed Memorandums of Agreement and a copy of my letter to Mr. Giles is self-explanatory.

It looks as though they are about ready to roll up their sleeves and go to work.

I had certainly hoped to have seen you in Washington before this time; but our local wheat is coming in now, and I cannot get very far away from the telephone. I might say it is a miserable crop on the Eastern Shore of Waryland: it is full of beetles, timothy heads, weed seeds, and about everything else you can think of because they are running with the combines wide open, and most of the wheat now is down among the weeds anyway. The same situation, in my estimation, holds true in Pennsylvania east of the Susquehanna.

I went to Ephrata last night to address the Pennsylvania Millers Association; and on the way, I noticed that all of the heads were sticking straight up even though the wheat was mature; and you never get a good crop off a field that looks like that.

Yours very truly,

P. R. MARKLEY, INC.

P. W. Markley Vice President & General Manager

PWM/dee

Enc.

Aorth Carolina State College of Agriculture and Engineering
of the
University of North Carolina
Raleigh

SCHOOL OF

AGRICULTURAL AND FORESTRY
RESEARCH
RESIDENT TEACHING

AGRICULTURAL EXPERIMENT STATION

June 30, 1948

Mr. G. W. Giles, Head Department of Agricultural Engineering Campus

Dear Mr. Giles:

I have before me a draft of the memorandum of agreement between P. R. Markley, Inc., and His Associates, Production and Marketing Administration, and North Carolina Experiment Station. So far as I can see, this memorandum is satisfactory as written. I note, however, that you use the name of North Carolina Experiment Station in the heading, introduction, and in Section One. In Sections Five and Six this is changed to N. C. State College. I suggest that North Carolina Experiment Station be used throughout.

Very truly yours,

R. W. Cummings
Associate Director

RWC/jps

P.R.MARKLEY. INC.

Grain Merchants

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JAMES E. BENNETT & CO.

AT ALL PRINCIPAL CITIES

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LAFAYETTE BUILDING...PHILADELPHIA 6. PA.....TELEPHONE: LOMBARD 3-6838

June 28, 1948

North Carolina State College of Agriculture and Engineering, University of North Carolina, Raleigh, North Carolina.

Attention: Mr. G. W. Giles, Acting Head
Department of Agricultural Engineering

Dear Mr. Giles:

CHICAGO BOARD OF TRADE

COMMERCIAL EXCHANGE OF PHILADELPHIA

NEW YORK PRODUCE EXCHANGE

BALTIMORE CHAMBER OF COMMERCE

MINNEAPOLIS CHAMBER OF COMMERCE

In acknowledgment of your letter of June 25 together with the Memorandum of Agreement, we state that the terms and conditions contained in both are agreeable to us and meet with our full approval.

I believe that identity of objective and understanding exists between the various agencies of the Government who are participating and ourselves.

We have had considerable experience in cooperating with one Government program and another during the past several years, and so we are familiar with the limitations and advantages concerned in your type of endeavor.

Send along your project outlined for signature when it is ready.

Yours very truly,
P. R. MARKLEY, INC.

P. W. Markley

Vice President & General Manager

Mikley

PWM/dee

NORTH CAROLINA AGRICULTURAL EXPERIMENT STATION

PROJECT OUTLINE

Project No.	٠.	•		•		•			•	
Date										
Submitted										
Approved										
Revised										

1. Title

Facilities for Off-Farm Drying and Storage of Small Grain and Corn.

2. Objective(s)

To develop a small grain and corn drying and storage building for off-farm purposes.

- (a) To determine the size and arrangement of building and accessories to accommodate pre-determined capacities.
- (b) To determine best equipment and installation of this equipment for the mechanical handling of small grain and corn for drying and storing.
- (c) To prepare construction plans for drying and storage facilities based on results of studies.
- 3. Reasons for Undertaking Investigations*

A recent survey in North Carolina, now in the process of summarization, indicates a major need for both on-the-farm and off-farm facilities for storage and drying of small grain and corn. Commercial interests advise that both corn and grain harvested in North Carolina at the present time, particularly in eastern North Carolina, is of such a high moisture content as to be undesirable for the commercial market or bulk storage. Corn left in the field to dry naturally is subject to deterioration from weather damage and insect infestation.

Proper drying and storage facilities can largely eliminate crop deterioration and allow North Carolina corn and small grain to be marketed to the best financial advantage.

4. Previous work and present status of investigations in the field of this project:

Facilities for off-farm storage and drying of grain has proven profitable in the Midwest. One manufacturer of drying equipment reports 57 installations in Iowa, 27 in Minnesota, 17 in Nebraska, 11 in Illinois, 10 in South Dakota, and a lesser number in six other Midwest states. A map received with a letter of June 1, 1918 from Mr. Harry Dearing, Agricultural Engineer for Tennessee Coal, Iron, & R.R. Company of Birmingham, Alabama, shows seed and grain drying installations as follows: 18 in Georgia, 13 in Tennessee, 12 in Alabama, 5 in Florida, 2 in North Carolina and 1 in South Carolina. One of the two installations in North Carolina is a farm dryer and it is not shown how many of the other installations in the Southeast are off-farm facilities.

It is evident that North Carolina lying in a humid area, subject to serious insect infestation, and ranking eleventh in national production of corn is lagging in the development of proper facilities for drying and storing of corn and small grain.

5. Outline of Procedure:

- (a) Visit and study existing off-farm corn and small grain drying facilities in neighboring Southeastern states.
- (b) Obtain detailed information, plans, etc. on similar facilities in the Midwest.
- (c) Apply information obtained above with studies of local weather, harvesting, and marketing conditions to the design and construction of a semi-experimental off-farm drying and storage building or buildings.
- (d) Determine drying characteristics, practicability of mechanical handling, success of storage, and costs of processing corn and small grains in the semi-experimental building.
- (e) Carefully study information obtained under (a), (b), (c) and (d) above with a view to the improvement of the design of the semi-experimental building. The improved design will be presented as construction plans for an off-farm drying and storage facility which can be recommended for North Carolina conditions.

Project No.

- 6. Probable Duration of Project: 5 years.
- 7. Date of Initiation: July 15, 1948.
- 8. Personnel:

ocas of the

Name

Department

Relation to Project

Sidney H. Usry
John W. Weaver, Jr. Agricul
N. C. Teter Agricul
E. A. Ellison Grain B
Wilson Tucker
G. T. Scott State D
P. R. Markley, Inc. & His Associates
Wallace Ashby USDA

Agricultural Engineering
Agricultural Engineering
Agricultural Engineering
Grain Branch, P.M.A.
Grain Branch, P.M.A.
State Director, P.M.A.
Sociates
USDA

Leader
Cooperator
Cooperator
Cooperator
Cooperator
Cooperator
Cooperator
Cooperator

9. Cooperation:

- a. Interdepartmental Agricultural Engineering
- b. Other Agencies

U. S. Department of Agriculture, Grain Branch, P.M.A. P. R. Markley, Inc. & His Associates.

August 17, 1948

Mr. P. W. Markley Vice President & General Manager P. R. Markley, Inc. Lafayette Building Philadelphia 6, Pa.

Dear Mr. Markley:

I am enclosing a copy of the memorandum of agreement on our cooperative research for your file. I am sure that you will see some action on this project right away.

With best personal regards, I am

Yours very truly,

G. W. Giles, Head Department Agricultural Engineering

GWG:cc

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LAFAYETTE BUILDING...PHILADELPHIA 6, PA.....TELEPHONE: LOMBARD 3-6838

August 13, 1948

North Carolina State College of Agriculture and Engineering University of North Carolina Raleigh, North Carolina

Attention: Mr. G. W. Giles, Acting Head Dept. of Agricultural Engineering

Dear Mr. Giles:

We return again all of your agreements duly signed.

We seem to be doing a rush business in transporting agreements, but I hope it leads to some positive action.

I wrote Mr. Usry today telling him that I hope to be in Carolina Monday or Tuesday and will probably drop around to see all of you.

I also told him in my letter that we have been doing some independent work on this problem with the Great Lakes Steel Corporation, and they have come up with something that we think will do the trick. I will be able to explain it to you when I see you.

Yours very truly,

P. R. MARKLEY, INC.

V

P. W. Markley Vice President & General Manager

PWM/dee Enc.