

HISTORIC NOTE

**The publications in this collection do not reflect current scientific knowledge or recommendations. These texts represent the historic publishing record of the Institute for Food and Agricultural Sciences and should be used only to trace the historic work of the Institute and its staff. Current IFAS research may be found on the Electronic Data Information Source (EDIS)
<<http://edis.ifas.ufl.edu/index.html>>
site maintained by the Florida Cooperative Extension Service.**

Copyright 2005, Board of Trustees, University of Florida

**COOPERATIVE EXTENSION WORK IN
AGRICULTURE AND HOME ECONOMICS**

(Acts of May 8 and June 30, 1914)

AGRICULTURAL EXTENSION DIVISION, UNIVERSITY OF FLORIDA
FLORIDA STATE COLLEGE FOR WOMEN
AND UNITED STATES DEPARTMENT OF
AGRICULTURE, COOPERATING
WILMON NEWELL, Director

FOODS, NUTRITION AND HEALTH

By MARY A. STENNIS



Florida's Healthiest 4-H Club Girls, 1929

Bulletins will be sent free upon application to the
State Home Demonstration Department, Tallahassee, Florida

BOARD OF CONTROL

P. K. YONGE, *Chairman*, Pensacola
W. B. DAVIS, Perry
RAYMER F. MAGUIRE, Orlando
A. H. BLANDING, Tampa
FRANK J. WIDEMAN, West Palm Beach
J. T. DIAMOND, *Secretary*, Tallahassee

STAFF, AGRICULTURAL EXTENSION DIVISION

JOHN J. TIGERT, M.A., LL.D., President of the University
WILMON NEWELL, D.Sc., Director
A. P. SPENCER, M.S., Vice-Director and County Agent Leader
J. FRANCIS COOPER, M.S.A., Editor
R. M. FULGHUM, B.S.A., Assistant Editor
E. F. STANTON, Supervisor, Egg-Laying Contest
RUBY NEWHALL, Secretary

COOPERATIVE AGRICULTURAL DEMONSTRATION WORK

W. T. NETTLES, B.S., District Agent
H. G. CLAYTON, M.S.A., District Agent
J. LEE SMITH, District Agent
R. W. BLACKLOCK, A.B., Boys' Club Agent
HAMLIN L. BROWN, B.S., Dairy Specialist
E. F. DEBUSK, B.S., Citrus Pathologist and Entomologist
N. R. MEHRHOF, M. AGR., Poultryman

COOPERATIVE HOME DEMONSTRATION WORK

FLAVIA GLEASON, State Agent
VIRGINIA P. MOORE, Assistant State Agent
LUCY BELLE SETTLE, B.S., District Agent
RUBY MCDAVID, District Agent
MARY E. KEOWN, M.S., District Agent
ISABELLE S. THURSBY, Food and Marketing Agent
MARY A. STENNIS, M.A., Extension Nutritionist

CONTENTS

	Page
Food, Nutrition and Health Score.....	5
Food and Nutrition Program Outline.....	7
Body Needs, and Foods to Meet these Needs.....	8
Milk	11
Eggs	20
Vegetables	24
Fruits	31
Cereals	33
Meal Planning and Serving	36
Suggestions for County Contest Day.....	38

FOREWORD

The nutrition program for 4-H Club Girls stresses food selection and preparation, posture, sunshine, and exercise and rest. This program begins with the plan of learning how to score nutrition and health, and continues with a definite plan of study and demonstration of improvement in nutrition and health.

The first year girls (ages 10 to 12) carry a program of "Watch Us Grow." The second and third year club members will use this bulletin with the Nutrition Record Book, and the third and fourth year girls carry a school lunch program which combines a plan of service for the school and community as well as for themselves.

The completion of the girls' program in Food, Nutrition and Health, qualifies a club girl to take the Women's Program, or, with the recommendation of her home demonstration agent, to be a project leader for a girls' club beginning the Food, Nutrition and Health Program.

FOOD, NUTRITION AND HEALTH SCORE

"An adequate diet, a wholesome program of living, and a state of optimum nutrition and health" is the purpose. How shall we score? How shall we know good nutrition?

Too often weight has been the one and only deciding measure. The weight standard selects the children below the average (and usually they are undernourished) but it fails to select a great number of children who weigh, according to the tables, the average number of pounds, but who are, at the same time, poorly nourished. Then let's get away from the idea that "I'm all right" or "I'm perfect" because the scales tip at average.

Score (See Record Book, Pages 2-5)

I. Weight

Weigh first. Record the weight, height, age and average weight. If the bones are not unusually small bring weight at least to average according to height-weight-age tables.

II. General Appearance**a. Flesh**

1. Too much for activity; for appearance.
2. Body well rounded; bones of neck, arms, legs, ribs well covered.
3. Body thin or very thin.
4. Flesh firm, fairly firm or soft.

b. Skin and mucous membrane**1. Face**

- a. Color (color varies with natural color of skin). Good. Fair. Poor.
- b. Color under eyes. Natural color of face. Dark circles.

2. Hair glossy.**3. Mucous membrane of mouth and eyelids.**

- a. Deep pink (no inflammation). Good. Fair. Poor.

c. Posture

1. Erectness. Ear, shoulder cap, hip bone, and ankle bone in line. Head erect (neck in line with trunk).
2. Shoulders even.
3. Shoulder blades flat across the back.
4. Back: No lateral curve.
Normal curves correct.
5. Abdomen flat in lower part.
6. Weight balanced equally on ball and heel of feet and carried over center.

7. Feet parallel. Arches strong and limber. Ankle joints same inside and outside.
 - d. Facial Expression
 1. Bright in conversation or attention.
 2. Calm, happy, free from strain and worry in repose.
 - e. Other points of well built, well used body
 1. Arms and legs straight and strong; joints not enlarged.
 2. Teeth regular, meeting perfectly; well kept; jaws well formed making teeth even.
 3. Breathing easy and deep with mouth closed when exercising or sleeping.
- III. Health habits necessary in a program of good nutrition
- a. Regular eating. No solid food between meals.
 - b. Elimination regular and thorough.
 - c. Sleep—nine to 10 hours.
 - d. Rest period during the day.
 - e. Exercise out-of-doors every day; some work, some play.
 - f. Generous amount of Florida sunshine every day.
 - g. A demonstration to others in better nutrition, better health.

The following materials will prove helpful, and can be secured:

Bulletins: United States Department of Agriculture Leaflet 42, "Good Food Habits for Children," C. Rowena Schmidt. "Building a Good Body," Hilda Faust, Calif. Ext. Dpt. "Sunlight the Health Giver," Metropolitan Life Ins. Co.

Slides: Build Early for Good Growth. United States Department of Agriculture, Washington, D. C.

Films: Posture. Children's Bureau, Washington, D. C. Posture for Health and Beauty, United States Department of Agriculture, Washington, D. C.

Mimeographed Material, Florida Home Demonstration Department: 1. Exercise for Posture. 2. The Posture Play.

Charts: Superintendent of Documents, United States Department of Agriculture. The American Posture League, No. 1, Madison Avenue, New York City.

OUTLINE OF FOOD AND NUTRITION PROGRAMS FOR SECOND AND THIRD YEAR GIRLS' CLUBS

PROGRAM I.

- | | |
|-----------------------------|--|
| 1. Body Needs | Building and Repairing
Regulation
Growth and Health |
| 2. Foods to Meet the Needs. | Proteins Minerals
Sugars Vitamins
Starches Water
Fats |

PROGRAMS II, III, IV, V, and VI.

1. Milk, eggs, vegetables, fruits, cereals and their food value and preparation.

PROGRAM VII

1. Meal Planning. To meet body needs
Amount
Combinations
2. Meal Serving. (See F.S.C.W. Bulletin 28, pages 9-12.)

HOME WORK:

FIRST YEAR:

1. Prepare two dishes under each program (II, III, IV, V, and VI).
2. Plan, prepare, and serve one meal (breakfast, dinner or supper).

SECOND YEAR:

1. Prepare four dishes under each program (II, III, IV, V, and VI).
2. Plan, prepare, and serve breakfast, dinner and supper for the family.

RECORDS:

FIRST YEAR:

1. Recipes for dishes prepared.
2. Menu for meal served.

SECOND YEAR:

1. Recipes for dishes prepared.
2. Menu for meals served.

PROGRAM I

BODY NEEDS AND FOODS TO MEET THESE NEEDS

What is to you the most interesting building? You may think of many, but the real answer is the human body. How is it made? Much has been learned, but there remain many mysteries. How long does it take to build it? As long as life lasts, for it is a living building. Who builds it? Given the material, it builds itself. Does it "work" all the time? Yes. Even when actual work and play cease and sleep and rest come, breathing, digestion, and circulation continue. Then what is the wonderful material which—

- 1st. Builds and repairs the body?
- 2nd. Makes the body "go"?
- 3rd. Keeps every part in working order?

The answer is "food."

Now since these buildings of ours are made of so many different kinds of tissues—muscle, fat, bones, teeth, skin—and since there are bodies of so many different ages and sizes, there must be not one food, but a combination of many foods to meet all the needs.

The feeding of the body to "make it go," to supply the power for work and play, is in some ways like the feeding of an engine.

1. The food (fuel) must be of the best quality.
2. Food (fuel) must be supplied regularly.
3. The waste matter must be handled correctly.

Are you a good engineer? Do you

1. Make a wise choice of food?
2. Have regular meal hours?
3. Clear the digestive tract of waste matter?

Or do you fire the furnace too much at times and not enough at others? Do you forget to clean the furnace some days? When you have made for yourself regular food habits, then you are ready to study different kinds of foods and how they do their work.

CLASSIFICATION OF FOODS

We may classify our foods in six groups.

FOODS	WHAT FOODS DO FOR THE BODY
1. Proteins	Build, repair, and furnish energy.
2. Fats	Supply energy.
3. Starches	Supply energy.
4. Sugars	Supply energy.
5. Minerals	Build tissue and regulate body processes.
6. Vitamins	Protect from disease, keep well.
7. Water	Regulate. Supply building material.
8. Cellulose, or Fiber	Regulate digestion.

All foods supply some energy to the body, but *fats, starches, and sugars* furnish the bulk of our supply. Bread, butter, milk, yolk of egg, and cereals are among the best energy producers. What will happen if we do not eat enough of these foods? If the furnace is not fed enough fuel the fire goes out. Happily for our bodies, they can last a short while. However, they must use the fat already in the bodies. When the fat is gone the body draws on the muscle. Then the body is weakened.

What happens if we eat too much?

1. We become too fat.
2. Digestion does not work well.

Why does the girl of 10 to 14 need a generous amount of food?

1. She is growing; she needs building material.
2. She is always "on the go," and needs energy material.

How can she tell when she is getting enough energy food?

Use the standard table of age, weight, and height, and weigh every month. If she is average weight and steadily making gains according to age and height she may take that as a sign of enough fuel.

Proteins are builders of tissues,—muscle, nerve, blood, and bone. Building or growing is the most important business of children—steady growth upward until full height at about 20 or earlier, then continual broadening and developing until perhaps 25. The following foods contain much protein: Milk, skimmilk, buttermilk, cheese, eggs, lean meat, beans, peas, nuts, fish, and fowl. Watch this list and don't crowd out proteins with desserts, ice creams, sodas, and candies.

Which are the best protein foods? Milk and eggs.

If the milk and eggs are used freely, very little meat is necessary (see lesson on milk). What building material does milk contain? Why is its protein the best?

Minerals help

1. To build bones and teeth.
2. To keep the inside organs in working order.

There are 12 minerals required, but only three that we must remember: Lime, phosphorus, and iron.

These minerals are found in plant foods and in the tissues of the cells of some animal foods. Milk stands first in supplying lime and phosphorus. Egg yolk furnishes phosphorus and iron. Vegetables are our next best supply of minerals.

Vitamins, though slightly known since 1911, remain one of the mysteries of foods. We know, however, that if they are omitted growth stops and health is affected, and the body becomes subject to disease. Vitamins are found in everyday foods

if we know where to look. The following table shows where we may find vitamins A, B, or C:

A	B	C
Milk	Milk	Oranges
Butter	Natural grains	Tomatoes
Egg yolk	(bran and germs)	Lemons
Green vegetables	Fresh vegetables	Grapefruit
Carrots	Nuts	Cabbage (raw)
Cod liver oil	Egg yolk	Lettuce (raw)

Vitamin D is found in egg yolk, butter, cod liver oil, and green vegetables.

Diets low in calcium and in vitamin C seem unfavorable to best tooth development.

From the foods listed here we readily see that fresh milk, butter, vegetables, fruits, and whole grain cereals are required in the diet.

Water in generous amounts is necessary: (1), because the body tissues are three-fourths water, and (2), because water aids digestion and prevents constipation. Water should not be used to save chewing of food, but may be taken at meal time, between meals, before breakfast, and before going to bed. Six or eight full glasses a day are not too much.

Cellulose (the woody part or fiber of grains, fruits, and vegetables) helps to keep the digestive tract active and to take the finely divided food through its course.

PROGRAM II

MILK

“Milk is the best possible foundation for an adequate diet.”—
Mary Swartz Rose.

WHY MILK FOR THE GROWING CHILD?

1. Milk is the best single food.
It supplies:
 - (a) Easily digested proteins for body building.
 - (b) Mineral salts for blood, bones, and teeth.
 - (c) Vitamins for health and growth.
 - (d) Easily digested fat and sugar for energy and gain in weight.
2. Milk is economical.
 - (a) As a supply of lime.
1 glass gives $\frac{1}{3}$ amount lime needed daily.
1 glass equals (in lime supply) $8\frac{1}{2}$ eggs, $1\frac{1}{4}$ cabbage, $5\frac{1}{2}$ lbs. potatoes, $8\frac{1}{2}$ lbs. meat.
 - (b) As supply of body builders.
1 quart milk gives as much protein as 4 large eggs.
3. Milk makes meal planning easy.
Egg yolk or vegetables will add the iron; tomato or orange juice, the vitamins needed, and fruits, vegetables, whole cereals, and bread will supply the roughage.
4. Milk and milk products are easily used in cooking.
 - (a) The following dishes are based on milk:

Cocoa	Custards
Soup	Puddings
Milk gravy	Ice cream
Creamed dishes	Sherbet
 - (b) The following form good combinations with milk:
Cereals and breads
Fruits and fruit juices

CLUB PROGRAM ON MILK

OBJECTS:

1. To learn use of milk in the diet.
2. To learn ways of preparing milk.

HOME WORK:

1. **First Year.**
Prepare two milk dishes.
Keep record of amount of milk used in diet daily for 1 month.
2. **Second Year.**
Prepare four milk dishes.
Keep record of amount of milk used daily in diet for 1 month.

SUGGESTIONS FOR CLUB MEETINGS:

1. Response to roll call. Answer with amount of milk taken daily by each club member, and the number of pounds each member is under or over average weight.
2. Demonstration: Preparation of one or two milk dishes. (See recipes following.)
3. Experiments:
 - I. To show effect of high temperature on milk protein. Put 1 cup sour milk, which is solid enough for making cottage cheese, into a double boiler. Cook with the water in lower part of double boiler at boiling temperature until curd separates from whey. Strain through cheesecloth and note the texture of curd.
 - II. To show effect of low temperature on milk protein: Make same preparations as in I. Cook with water in lower part of double boiler at very low temperature. Strain and note texture of curd. Compare with I.

QUESTIONS:

1. What rule holds good for cooking both milk and eggs? Why?
2. Why should milk dishes be washed in cold water first, then in hot, soapy water? Is the same true of uncooked egg dishes? Why?
3. Why does scalded milk keep better than unscalded milk?
4. Why should all milk utensils be scalded? How does sunshine help in purifying milk vessels?

MILK AS A FOOD

Milk is the most nearly perfect food known. Adults need at least a pint (whole or skimmed), growing children (up to 25 years) need 1 quart of whole milk, either as plain drink or combined in other foods. Iron is lacking in milk and must be supplied by some other food. Babies are born with several months' iron supply. Their iron from the 3rd to the 6th months should be supplied by juice of vegetable greens and later (in second year) eggs and other foods containing iron may be added to the

diet. Vitamin C, in sufficient quantity, is lacking and can be supplied by strained tomato or orange juice. A quart of milk supplies 675 calories, one-half amount needed for a five year old; about one-third amount needed for a girl of 10 years.

USES OF MILK IN THE BODY

1. Milk protein is easily used by the body. Experiments show that 98% of protein is absorbed. This protein is "complete" in that it supplies all the protein material necessary for making body cells. It is therefore a good supplement for those foods that do not supply complete protein. Such foods are bread, oatmeal, hominy, and other grain products.

2. Sugar: The sugar in milk is *lactose*. It is not as sweet as ordinary sugar and is more easily used by the body. It furnishes heat.

3. Fat: All whole milk contains fat in the form of cream. It is in the form of "emulsion" and is therefore easily digested.

4. Minerals: Lime and phosphorus, especially needed in bones and teeth, are there in the proper combination for best work. One quart of milk gives the day's supply of lime and about 1/3 the supply of phosphorus.

Whole milk thus supplies many needs of the body, and should always be given *growing children*.

Skim milk gives to adults many needed helps but supplies less vitamin and fat.

Butter is essential in that it ~~contains~~ more vitamins than butter substitutes. Unless the child gets plenty of fresh whole milk, it should get an extra amount of good fresh butter.

Cheese is a valuable food in its natural form or in combinations if cooked at a low temperature. Pressed cheese, for children, should be grated and should be given in small amounts. It is a concentrated food.

MILK RECIPES*

Soups

To make a milk soup, almost any vegetable may be used, such as spinach, beans, peas, corn, celery, tomatoes, asparagus, onions, potatoes, and okra. Cook any of these until tender. Chop finely or run through a strainer. Add chopped vegetable or strained juice to white sauce as made below. Usually 1 cup vegetable to 2 cups of milk is used. If necessary thin with milk or vegetable water.

*In all recipes in this bulletin, T. represents a tablespoonful, and t. a teaspoonful.

White Sauce

1 cup milk
1 T. butter

1 T. flour
 $\frac{1}{2}$ t. salt

$\frac{1}{8}$ t. pepper

Mix flour with a little cold milk to make smooth, thin paste. Add slowly heated milk, add seasonings. Use a double boiler if possible, and cook 15 or 20 minutes. Add butter just before serving.

Never waste the water in which vegetables are cooked. Use it in soups. Tomatoes, to be used in soup, should have a little soda ($\frac{1}{2}$ t. to 1 No. 2 can tomatoes) added to prevent curdling of milk. Always rinse vegetable cans with water and add water to soup. Don't waste any water in which vegetables are cooked. It often contains the mineral.

Celery Soup: May be made of outside stalks, leaves, etc.—2 cups water to 1 of chopped celery. Cook until tender, adding salt just before it is done. Add this mixture, water and celery, to 2 cups thin white sauce.

Vegetable Soup: Cook vegetables until tender, then mash. Add both pulp and juice to thickening. Work into a smooth paste 1 T. flour and a little cold milk or water. Add gradually to the juice of the cooked vegetable, and add as much milk as desired.

Serve With Soups

Croutons—Cut stale bread into 1-inch cubes and brown in oven.

Crackers—Brown in oven.

All cream soups are made most nourishing by addition of egg. Beat egg. Add slowly scalding hot soup, 1 cup to the egg. Mix well and serve at once.

Other Milk Recipes

1. *Whole sweet milk.*
2. *Buttermilk*, 1 glass. Medium cream, 1 T.
Mix thoroughly. (This recipe serves for those who "do not like sweet milk.")
3. *Egg-Nog.*

$\frac{3}{4}$ cup milk 2 t. sugar	1 egg Flavoring
--------------------------------------	--------------------
4. *Egg Milk Shake.*

3 cups milk 3 eggs 4 T. sugar	Few grains nutmeg Few grains cinnamon $\frac{1}{4}$ t. salt
-------------------------------------	---

Beat the eggs until very light; add sugar, salt, vanilla, and spices, then the milk. Stir until sugar dissolves. Milk should be very cold. Beat or shake well. An easy seal fruit jar makes a convenient utensil for preparing milk shake.

5. *Junket.*

(a) Plain

3 cups milk
 $\frac{1}{2}$ cup sugar

1 T. cold water
 1 T. vanilla

1 junket tablet

Crush and dissolve junket tablet in cold water. Warm milk and sugar to temperature just *below* luke-warm. Add vanilla and junket. Pour at once into serving cups and let stand in warm place until settled. Then chill. Season with nutmeg or cinnamon just before serving.

(b) Chocolate

Put 3 T. cocoa paste in cup and fill with milk, making total 3 cups. Proceed as above.

(c) Caramel

Caramelize $\frac{1}{2}$ cup sugar by stirring constantly in a pan at oven heat until it is a light brown syrup. Add $\frac{2}{3}$ cup milk and heat until sugar is dissolved. Add remaining $2\frac{1}{3}$ cups milk and proceed as in plain junket.

Chocolate Corn Starch Pudding

2 cups milk
 $\frac{1}{2}$ cup sugar
 6 T. cornstarch

$1\frac{1}{2}$ squares chocolate
 $\frac{1}{2}$ t. salt
 $\frac{1}{2}$ t. vanilla

Mix dry ingredients and make into thin, smooth paste with a little milk. Add to heated milk in top of double boiler. Add melted chocolate. Stir to prevent lumps. Cook 20 minutes, add vanilla and pour into molds rinsed in cold water. Chill and serve with cream or whipped cream.

Fluffy Chocolate Pudding

Proceed as under cornstarch chocolate pudding with following change: Use $2\frac{1}{3}$ cups milk, 5 tablespoonfuls cornstarch, 3 egg yolks, 1 t. vanilla and whites of three eggs stiffly beaten. Fold in egg whites last.

Blanc Mange

Proceed as under fluffy chocolate pudding, omitting chocolate. Serve with crushed and sweetened fresh or canned fruit of bright color.

CUSTARDS**Floating Island**

2 eggs
 3 egg yolks
 4 T. sugar
 $\frac{1}{4}$ cup sugar

$\frac{1}{8}$ t. salt
 $\frac{1}{2}$ t. vanilla
 $1\frac{1}{2}$ cups scalded milk

Beat the whites until stiff. Add 4 tablespoons sugar. Drop by tablespoonfuls into a shallow pan of hot water. Bake in a moderate oven until delicately brown. Remove cooked whites into a serving dish.

Prepare custard sauce: Mix yolks, sugar and salt in a bowl, add scalded milk slowly. Return to double boiler and cook until a coating is formed on metal spoon. Remove immediately. Add flavoring. Pour around cooked whites in a large shallow bowl. Chill before serving.

Custard

1 quart milk	¼ t. salt
6 eggs	½ cup sugar
½ t. vanilla or nutmeg	

Scald the milk (use double boiler if possible). Beat the eggs slightly, add sugar and salt. Gradually add the milk to egg mixture, stirring constantly. Cook either as baked or thin custard.

Baked Custard

Proceed as under custard. Pour the mixture into buttered custard cups or a baking dish. Set in a pan of warm water and bake in a slow oven. Test with a knife blade, and when blade comes out clean remove from oven. Custard may be sprinkled with nuts or nutmeg before baking, to vary.

Thin Custard

Proceed as under custard. Cook in double boiler, stirring until mixture thickens and coats a metal spoon. Strain immediately, chill and flavor. If cooked too long the custard will curdle. Should this happen, by using an egg beater it may be restored to a smooth consistency, but custard will not be thick. Eggs should be beaten slightly so that custard may be smooth. When eggs are expensive use 4 eggs and 1 tablespoonful cornstarch. Thin custard may be used in many ways as a sauce—with stale cake, with fruit, with cocoanut added, or as a pudding sauce.

Orange Custard

Arrange slices of sweet oranges in glass dish, pour over them boiled custard, chill, and cover with meringue.

Meringue

Beat the whites of 2 eggs until stiff, and add gradually, while beating constantly ⅓ cup sugar, ½ teaspoon vanilla, a few grains of salt.

Baked Caramel Custard

4 cups scalded milk	1 cup sugar
½ t. salt	1 t. vanilla
5 eggs	

Melt sugar (to prevent burning, use a heavy pan and stir constantly) until a light brown. Add hot milk and cook until free from lumps. Add to slightly beaten eggs, salt and flavoring. Strain into a buttered mold and set in pan of hot water. Bake in moderate oven until knife will come out clean.

Bread Pudding

Into a well-buttered baking dish put layers of buttered slices of dried bread, sprinkle over with raisins. Cover with custard mixture made as follows: To 2 slightly beaten eggs add 4 tablespoons sugar and ⅛ teaspoon vanilla, mix with 2 cups milk. Set dish in pan of hot water. Bake in a moderate oven until custard is firm and well browned.

Cake Pudding

Make the same as bread pudding, except use dried cookies or cake in place of buttered bread.

Poor Man's Pudding

6 cups whole milk	½ cup rice
½ t. nutmeg	½ cup sugar
1 t. salt	½ cup raisins

Put all together in a buttered pan in a moderate oven. Stir frequently at first, and then occasionally. Bake 2 hours. Should be creamy. Better cold than hot.

Tapioca Cream

4 T. pearl tapioca	4 eggs
4 cups milk	2 t. vanilla
4 T. sugar	

Soak tapioca in 1 cup cold water several hours, or overnight. Cook in double boiler in the milk until tapioca is perfectly clear. Add sugar and egg yolks beaten smooth, a pinch of salt, any flavoring to taste. Cook 3 minutes, pour in buttered pudding dish. Garnish top with meringue made of well-beaten egg whites and 3 tablespoons sugar. Brown in oven for a few minutes. Serve, when cold, with whipped or plain cream.

Spanish Cream

2½ T. granulated sugar	3 cups milk
White 3 eggs	Yolks 3 eggs
½ cup sugar	¼ t. salt
1 t. vanilla	

Soak gelatin in a little of the cold milk, then dissolve in scalded milk. Mix sugar and slightly beaten egg, add hot milk to this slowly. Return to double boiler and cook until thickened, stirring constantly. Remove from range and add salt. Add flavoring and white of egg beaten stiff. Turn into individual molds first dipped in cold water, and chill; serve with cream. May be garnished with whipped cream. Serves eight.

HOW TO MAKE COTTAGE CHEESE

Use freshly coagulated or clabbered milk. Skim off cream. Set pan of clabbered milk in hot water and heat slowly until curd separates from whey. Be careful not to let milk become too hot or curd will be tough. Place in a strainer on a piece of cheesecloth rinsed in hot water. Strain heated curd mixture until well drained. (Save whey for use in cooking.) Crush curd in a bowl with fork. Mixing with a wooden potato masher will break up lumps and give cheese a finer texture. Season to taste with sweet or sour cream, butter, salt and pepper. Finely chopped onion, parsley, celery, pimiento, or green pepper may be added.

Cottage Cheese Jelly

On a flat dish put mounds of cottage cheese and tart jelly. Garnish with watercress or other greens. Mix cheese well with sweet or sour cream or melted butter. Season with salt and pepper. Serve with toasted crackers.

Cottage Cheese Uses

The curd of milk is an excellent food. It belongs to the same class of foods as meat; that is, it builds and repairs muscle tissues. Cottage cheese is made from the curd of milk.

Cottage cheese is easily digested and efficiently used in body-building. Because cottage cheese is very cheap and of excellent food value, the housekeeper will find it a desirable addition to her meals. It can be used as a relish, in cottage cheese salads, and in sandwiches. Cottage cheese makes excellent sandwich filling when combined with chopped nuts, chopped olives, chopped celery, chopped onion, chopped pickles, jelly, horseradish, chopped raisins, chopped dates, chopped pimientos, honey, marmalade, or crushed mint leaves. Mix cottage cheese with any of these and use as a spread for buttered bread, such as whole wheat, graham, oatmeal, or brown bread.

COTTAGE CHEESE SALADS

Pineapple Salad

On crisp lettuce place a slice of pineapple, on this a mound of well-seasoned cottage cheese mixed with sweet or sour cream,

a cherry or bright-colored berry on top. Serve cold with French or boiled dressing.

Stuffed Prune Salad

Through a lengthwise cut remove stones from large cooked or steamed prunes. Fill with cottage cheese seasoned and mixed with sweet or sour cream. On crisp lettuce leaves arrange stuffed prunes star fashion around a small mound of cottage cheese. Serve with Russian or any desired dressing.

Serve the following on crisp lettuce leaves with any desired salad dressing.

1. *Cheese Balls*—Mix seasoned cottage cheese with salad dressing and shape it into balls. Roll the balls in ground peanuts, chopped parsley, or chopped green or red pepper.

2. *Cheese Nest*—Form the seasoned cheese in shape of nest. Fill cavity with cubes of cranberry or other tart jelly.

3. *Tomato Salad*—Remove the centers from medium-sized tomatoes and fill cavities with seasoned cottage cheese. In the winter, tomato gelatine may be used.

4. *Pear or Peach Salad*—Fill the centers of canned pears or peaches with seasoned cottage cheese.

5. *Stuffed Celery*—Fill the celery stalks of uniform size with cottage cheese that has been seasoned with paprika, salt and lemon juice or olives.

6. *Cheese and Pineapple*—Shape cheese balls round and make about 1 inch thick. Roll in chopped parsley, peanuts or walnuts (chopped), or sprinkle with paprika. Place on rings of pineapple.

7. *Snow Flake*—Place on lettuce, slices of fresh or canned peaches or other desired fruits. Put seasoned cottage cheese in a potato ricer and shake in flakes on fruit.

The following bulletins will be helpful.

Farmers' Bulletin 960—Neufchatel and Cream Cheese.

Farmers' Bulletin 1451—Cottage Cheese.

U. S. D. A. Circular 109—Cottage Cheese Dishes (with Recipes).

(These three obtainable from the United States Department of Agriculture, Washington, D. C.)

Directions for Making Cottage, Cream and Other Cheeses—Freeman G. Martin, University of Florida, College of Agriculture.

Write Children's Bureau, Washington, D. C., for material on milk.

PROGRAM III

EGGS

Eggs are one-third yolk and two-thirds white by weight. The yolk consists of about one-half water, one-third fat, and one-sixth protein, phosphorus, lime and iron. The white is composed of about seven-eighths water and one-eighth protein, with some salt. The egg yolk contains about 14 times as much energy as the white, has a larger amount of mineral, and contains the vitamins.

Eggs supply: (1) body builders, (2) fuel, and (3) health and growth helpers—vitamins.

1. The body builders consist of protein in an easily used form, which is found in both yolk and white, and of minerals, such as lime, phosphorus, and iron, which are found mostly in the yolk.

2. The fuel contained in eggs is fat in an easily digested form, and it is found largely in the yolk.

3. The vitamins found in the yolks of eggs are vitamins A, B and D.

EGGS IN THE DIET

1. Eggs soft cooked at a temperature below that of boiling water are more easily and quickly digested. Hard-boiled eggs or eggs cooked at high temperature require thorough chewing and longer period for complete digestion.

2. Eggs supplement milk. They have everything for growth except enough lime and vitamin C. They have a good supply of iron which milk lacks. Therefore they should be added early to milk diet, yolk first, whole egg later.

3. Eggs are, everything considered, more economical than meat, less economical than milk.

4. Eggs are easily cooked in many ways. They add flavor, texture, and color to many other foods.

5. Egg yolk may be given to very small children. It is usually cooked hard and mashed thoroughly or put through a sieve. From one-half to a whole yolk at a time may be given during the second year if given cautiously in the beginning. Occasionally for a change, the whole egg may be given, but the young child does not need the white if he has a quart of milk a day.

6. Whole egg may be given to the three-year-old child once a day. It should never be hardened by frying nor by high temperatures. It may be hard cooked, soft cooked, or uncooked. It may be included in desserts, drinks, or soups.

CLUB PROGRAM :

- Objects: 1. To learn the function of eggs in the diet.
2. To learn ways of preparing eggs.

Home Work: 1st year—Prepare eggs 2 ways.
2nd year—Prepare eggs 4 ways.

Suggestions for Club Meetings:

Response to roll call with "ways of serving eggs."
Demonstration: Make an egg dish. (See recipes.)

Experiments:

- I. Cooked and Boiled Eggs. (1) Put an egg in a pan of cold water. Let water come to boiling point. Remove to back of stove and let cook very slowly 20 minutes. (2) Put an egg in boiling water. Boil hard for 12 to 15 minutes. Shell both eggs and test for tenderness of both.

Questions: Why should eggs be cooked at low temperature?
Why do we say hard and soft *cooked* eggs rather than hard and soft *boiled* eggs?

- II. Break into saucers a fresh egg and one that has been kept for a long period in cold storage or for a shorter period under household conditions. Point out differences:

Fresh Egg—White, firm and thick. Yolk, sphere-shaped, firm. Chick spot small, color uniform but varying in different eggs from light yellow to deep orange.

Storage Egg—White, thin. Yolk flattened. Color, light, mottled areas in darker yolk. The air, in first-class storage rooms is kept dry. Moisture from the egg evaporates. Another change is that sometimes the egg white sticks to the shell membrane. Water passes from the white to the yolk, weakens the membrane around the yolk, and causes the yolk to spread into the white.

RESULTS OF STORAGE ON FOOD VALUE OF EGGS:

1. Failure of eggs to hold shape well in cooking.
2. Difference in flavor.
3. No proven change in wholesomeness if eggs are used directly from first-class storage. If the storage is not dry, mustiness results. Eggs spoil quickly after being removed from storage.

Discussion: How to preserve eggs for future use.

BULLETINS:

"Eggs and their Uses as Food"—U. S. Department of Agriculture, Farmers' Bulletin No. 128.

"Eggs and their Uses as Food"—U. S. Department of Agriculture, Farmers' Bulletin No. 471.

"Preserving Eggs"—Farmers' Bulletin No. 1109.

"Eggs at Any Meal"—Bureau of Home Economics Leaflet 39.

Recipes

Cooked in shell according to experiment. Low temperature method.

Poached Eggs

Fill a shallow pan $\frac{2}{3}$ full of water, add $\frac{1}{2}$ t. salt to 1 pint of water. Let boil. Drop into it strictly fresh eggs and continue the boiling 1 minute to prevent the settling of the eggs to the bottom of the pan. Then decrease the heat until the white is firm. "Basting" the top of the eggs with the hot water occasionally will firm the yolks also. Drain and serve on hot buttered toast.

Scrambled Eggs

6 eggs	$\frac{3}{4}$ cup of milk
Few grains pepper	3 strips of bacon cut fine
2 t. butter or	and fried to provide fat
$1\frac{1}{2}$ t. salt	

Add milk and eggs partially beaten. Then season. Keep stirring to prevent scorching.

Goldenrod Eggs

3 or 4 hard-cooked eggs	2 T. flour
$\frac{1}{8}$ t. pepper	$\frac{3}{4}$ t. salt
$1\frac{1}{2}$ T. butter or substitute	$1\frac{1}{2}$ cup milk
6 pieces of toast	Parsley

Separate the yolk and whites of the cooked eggs, and chop the whites. Make a white sauce of flour, seasoning, fat and milk. Add the chopped whites to the sauce and pour it over the toast. Press the yolks through a strainer or crush them with a fork and sprinkle over the top of the toast. Garnish with green leaves and serve hot.

Sunrise Eggs

Make a small mound of spinach or turnip greens (cooked without meat). Over this pour a small amount of white sauce prepared as in "Goldenrod Eggs." Run the yolk through a sieve or mash with a fork, and place in a small circle on top of the mound.

Sunset Eggs

Toast lightly a slice of bread. Separate the yolk and white of an egg. Beat white thoroughly, salt, heap on toast. Slip yolk into center of white, add a little pinch of salt and bake inside the oven.

Eggs in Custard—Baked

1 pint milk	2 or 3 eggs
$\frac{1}{4}$ cup sugar	$\frac{1}{8}$ t. salt
2 T. caramel syrup or	
$1/16$ t. nutmeg	

Scald the milk in a double boiler. Beat the eggs slightly, add the sugar and salt, mix. Add the hot milk to this mixture. Strain the mixture, flavor, and pour into a mold into which has been placed a little of the caramel syrup. Place the cups of custard in a pan of hot water and bake in a moderate oven until firm. Test for sufficient cooking by inserting a knife into the custard. If it comes out clean, the custard is done.

If a baked custard is to be turned out of the mold, 3 or 4 eggs should be used with each pint of milk.

When eggs are expensive, omit 1 or 2 from a custard recipe. Substitute $\frac{1}{2}$ tablespoonful of cornstarch for each omitted egg.

Floating Island

CUSTARD

1 pint milk
3 egg yolks
 $\frac{1}{4}$ c. sugar
 $\frac{1}{8}$ t. salt
 $\frac{1}{2}$ t. vanilla

MERINGUE

3 egg whites
3 T. powdered sugar

The custard may be made thicker by using 4 (instead of 3) eggs. Mix the materials in the same way as for baked custard. Instead of pouring mixture into molds, return it to the double boiler and cook (stirring constantly) until it thickens or forms a thin coating over the spoon. Strain, cool, and flavor.

Prepare the meringue by beating the whites of eggs stiff and then adding 1 tablespoonful of sugar for each white of egg. Drop the meringue by spoonfuls on the custard. If desired, garnish the meringue by bits of jelly or colored gelatine.

PROGRAM IV

VEGETABLES

Why More Vegetables?

1. Vegetables furnish bulk and stimulate intestinal action, thus preventing constipation. The bulkiness and the acid make them laxative foods. Onions and cauliflower are gas-forming foods and prevent constipation. Cellulose or woody fiber in some vegetables is coarser than that in others. This fiber or "broom-food" forms the indigestible part of the diet and helps to carry the more finely divided food through the alimentary canal. The fiber, rubbing the sides of the intestines, stimulates action and causes the food to pass on out of the intestines before it ferments or causes illness. Cabbage, carrots, rutabagas, and celery furnish cellulose in generous amounts. All vegetables to a certain extent supply fiber or bulk.

2. They give us minerals needed to keep the blood in good condition, to build strong bones and teeth, to make the heart beat properly, and to regulate digestion.

Vegetables are a source of lime, iron and phosphorus.

(a) *Lime*. Practically all vegetables supply some lime. (Milk, and outer layers of grain also supply lime.) Turnips, celery, cauliflower, lettuce, and carrots are rich in lime, but even then milk must supply the greater amount.

(b) *Iron*. This mineral in vegetables is more easily used by the body than the iron in beef. Spinach, turnip greens, cabbage, peas, and beans furnish iron. (Eggs, meat, and outer layers of grain also contain iron.)

(c) *Phosphorus*. Peas and beans are especially rich in this mineral. (Milk, eggs, meat, fish, nuts, and outer coats of grain are rich in phosphorus. Milk must supply a portion of phosphorus in the diet.)

3. They give us vitamins and thus good health. All fresh vegetables and fruits give us the water-soluble vitamins. Leafy vegetables give us these and also the fat-soluble vitamins.

4. They supply a limited amount of protein or body builders. Peas and beans have protein easily digested, but not complete. Milk and eggs are needed to supplement the vegetable protein.

5. They have an energy value. Peas, beans, carrots, turnips and other root vegetables contain starch.

6. They give us variety and attractiveness in diet.

PREPARATION OF VEGETABLES

1. Wash thoroughly, using a vegetable brush.
2. Baking and steaming are the best methods of cooking

vegetables. Flavor and food value are thus kept. In baking or boiling, retain the peeling.

3. If green vegetables must be cooked, use as little water as possible and do not throw away the juice. Use it with the vegetable or in milk sauces or soups. It contains much of the minerals.

4. Salt in the water slightly toughens the skins and fibers. It is better to add salt just before vegetables are sufficiently cooked. For very tender vegetables it may be necessary to add salt to water before cooking. This retains flavor.

5. The custom of adding salt pork or bacon or the fat of these to water in which vegetables are being cooked should not be encouraged. The vegetables become soaked in fat and therefore indigestible. It is better to add the seasoning after cooking.

6. Greens, beets, green peas, asparagus, turnips, snap beans, squash, onions, carrots, and cabbage are usually served hot with butter, pepper and salt. Cauliflower, celery, and sometimes cabbage and onion, are served with white sauce.

7. Above all, cook vegetables just enough to make them tender. Over-cooking loses flavor and value. The time depends upon size, age, and variety.

8. Pressure cooking (above 212°) partially destroys vitamin B. Ordinary cooking usually destroys vitamin C.

CLUB PROGRAM

Fuel Foods—Starch.

Body Builders—Mineral and protein.

Body Regulators—Cellulose, acid properties, and vitamins.

PURPOSE:

To learn food value of vegetables.

To learn to prepare vegetables.

HOME WORK:

First Year—Prepare 2 vegetables.

Second Year—Prepare 4 vegetables.

SUGGESTIONS FOR CLUB MEETINGS:

Reports: Amount and kind of vegetables eaten during past week.

TALK BY A MEMBER:

Selection of vegetable for table use. (Ask club members to bring vegetables from their gardens.) Point out difference between root and green vegetables, between fresh and withered vegetables, and between raw and cooked vegetables.

DEMONSTRATION:

Prepare one cooked vegetable or soup and one salad.

Plan for club members to have salad contest.

EXPERIMENT:

Use starchy vegetable like potato. Peel and cut into pieces. Cover with water. Let stand 15 to 30 minutes. Pour off the water into another pan and boil it. Cool and test with iodine. Iodine turns starch blue. What is your conclusion about soaking starch vegetables in water before cooking? Is food value saved by cooking vegetables in the peeling? Cover a piece of white potato with strong salt water 24 hours. Note effect. Suggest the effect of too much salt on stomach lining.

Discussion by Leader: "Use of vegetables in diet."

QUESTIONS:

What is the required amount of cooked and raw vegetables for each girl per day?

Why "raw" vegetables?

- (1) Cooking destroys some of the vitamins.
- (2) Cooking lessens mineral value.

Name vegetables which can be grown in each month of the year in Florida.

Why home gardens?

Why home canning of vegetables?

BULLETINS: Florida State College for Women, Tallahassee, Bulletins No. 1 and No. 28.

RECIPES**Cabbage**

Cabbage should never be cooked until it is brown—over-cooking toughens it, and destroys the natural flavor. Cook cabbage in an uncovered vessel, with water boiling constantly. From 30 minutes to an hour is sufficient time for boiling a head, the time depending upon the size of the head.

BOILED CABBAGE VARIATIONS:

Serve hot with butter, pepper and salt, using 1 tablespoonful of butter and one-half teaspoonful of salt to each pint of cabbage. One cup of thin white sauce may be used instead of the butter. A small head of cabbage may be boiled whole. When tender, drain head and cut into eighths, allowing the eighths to fall apart from heart as the petals of a flower. Pour melted butter into the center.

A small head of cabbage may be boiled until tender, the center removed and the cavity filled with a mixture of ground meat or cheese crumbs, seasoning, and a few left-over vegetables. The mixture should be blended with an egg. Sprinkle crumbs over the top. Place the stuffed cabbage in a buttered baking dish and heat in the oven to brown crumbs and cook egg. Remove and serve plain or with tomato sauce.

Scalloped Cabbage with Cheese

2 quarts cabbage	1 cup diced or grated cheese
1 pint white sauce (gravy)	3 pimientos

Shred a white cabbage to make 2 quarts. Cook in salted water until tender; drain and put into a greased baking dish. To the white sauce, add cheese. Cook at a low temperature until cheese is melted, then whip until smooth. Add chopped pimientos and pour this sauce over the cabbage. Mix lightly and brown in hot oven. Buttered crumbs on top may be mixed with 2 table-spoonfuls of grated cheese.

Raw Cabbage

Generous use of raw cabbage provides the salad dish for families unable to obtain lettuce in winter. Green cabbage rather than white should be selected.

Shredded cabbage mixed with a simple dressing of sour cream and ginger is delicious, or chopped cabbage combined with boiled salad dressing is relished.

Baked Potatoes

Wash six medium-sized potatoes; cut off small bit of peeling at each end to allow escape of steam, or prick when removing from oven. When the steam remains, it causes the potato to become soggy. Rub melted lard over the skin. Put in oven. The heat should be moderate for the first 30 minutes. Then finish with higher temperature. Cook until soft when pierced with a fork. Cut, insert lump of butter, and serve. The baked potatoes may be cut open lengthwise, mashed, and salt, pepper and milk added as in mashed potatoes. Pile lightly in the shell and bake in hot oven until top is brown. Sprinkling of cheese over the top adds much to the taste and appearance of the potato.

Mashed Potatoes

6 potatoes	1 t. salt
½ cup milk	½ t. pepper
2 T. butter	

Wash potatoes and cook in boiling water until soft. Drain, peel and mash potatoes. Add butter and salt. Mix thoroughly and add hot milk, beating well. Mashed potatoes should be beaten until soft and light.

White Sauce

(This amount makes one cup)

White Sauce	Milk	Fat	Flour	Salt
Thin	1 cup	1 T.	1 T.	½ t.
Medium	1 cup	2 T.	2 T.	½ t.
Thick	1 cup	3 T.	3 T.	¼ t.

Put butter in pan, stir until melted, add flour mixed with seasonings and stir until thoroughly blended, then pour the milk on gradually while stirring constantly. Cook until thick and mixture does not taste starchy. To avoid burning, cook in double boiler. Flour may be browned dry in the oven before using. This insures thorough cooking, but of course gives color to the sauce.

Creamed Carrots

2 cups cooked carrots 1 cup medium white sauce

Cook carrots as directed under general directions for vegetables and serve with medium white sauce.

Creamed Peas

2 cups cooked peas 1 cup medium white sauce

Prepare as directed for carrots.

Buttered Vegetables

3 cups cooked vegetables (beets, carrots, peas, okra, onions, turnips, celery, asparagus.)

This is a very simple way of serving vegetables. Cook as directed under general directions for vegetables. Slice or dice and season with melted butter, salt, and pepper. Vinegar and sugar instead of butter, may be poured over beets.

Spinach

Remove roots, carefully pick over (discarding wilted leaves) and wash in several waters to be sure that it is free from all sand. When young and tender, spinach may be steamed, or it may be put in a stew-pan and $\frac{1}{2}$ inch of boiling water added and cooked in its own juices until tender. Drain thoroughly, saving liquid for soup. Cut up with sharp knife and season with butter, salt, pepper, and vinegar if desired. This dish will look very appetizing if garnished with hard-cooked eggs.

Asparagus on Toast

3 cups asparagus 6 T. melted butter

Put asparagus on toast. Cover with melted butter. Some people use sugar and cream in serving this.

Summer Squash

Cut in thick slices or cubes. Boil in very small amount of salted water (enough to keep from scorching). Drain any surplus liquid. Place in hot serving dish, dot with butter on top slices so it will melt and run over the lower ones, and serve. If

not over or under-cooked, squash will be very delicate and palatable cooked in this manner.

Summer Squash Baked with Cheese

Cut in small squares— $\frac{3}{4}$ inches. Boil or steam until slightly tender. Put in buttered baking dish. Prepare a white sauce using any leftover liquid from the squash and milk. Pour over squash enough to moisten well. Cover with grated cheese and buttered crumbs and bake to a golden brown.

RAW VEGETABLES

Tomatoes, lettuce, grated carrots, and cabbage should be served raw often. They are especially valuable for their vitamins and minerals, which are to some extent lost in cooking. Raw vegetables, properly chewed, give needed exercise to the teeth. Preparation as a salad tempts the appetite.

Carrot and Celery Salad

1½ cups grated carrots	Salad dressing
1½ cups diced celery	

Mix the carrots and celery with boiled or mayonnaise dressing. Place on lettuce leaf, garnish with small amount of dressing mixed with cream, and a dash of paprika. Ground peanuts or pecans add much to the flavor. Diced apple may be added.

Carrot and Cabbage Salad

Use same method as for carrot and celery.
(Cabbage and apple may be used likewise.)

Tomato and Lettuce Salad

Crisp green lettuce served with sliced tomato and a simple salad dressing (French dressing with lemon juice, or an egg dressing), is the most popular of all salads.

Salad Dressing

3 T. butter	1½ t. salt
4 T. flour	½ t. mustard
2 T. sugar	1½ cups milk (sweet or sour)
Pepper	½ cup vinegar
1 or 2 eggs	

Make sauce of the fat, flour, and milk. Beat the eggs, add the seasonings. Add the first mixture gradually to the egg mixture and cook over hot water as a custard. Add the vinegar and strain. Cool before serving.

French Dressing

French dressing is the simplest—yet, at the same time, the most sophisticated of all salad dressings.

6 T. salad oil	¼ t. salt
2 T. vinegar or lemon juice	Pepper

Mix thoroughly, adding paprika if desired.

It can be made in quantity as desired by merely increasing the amount of the various ingredients used, maintaining the proper proportions of oil and vinegar—one part of vinegar to three parts of salad oil.

When made in quantity, this dressing can be kept in a covered jar in the ice-box, and is ready for use at any time, merely needing a thorough shaking to break up the oil and blend it with the acid.

PROGRAM V

FRUIT

Why More Fruit?

1. Fruits supply bulk, and mildly laxative substances to prevent constipation.
2. They protect us from diseases by giving us minerals and vitamins.
3. They lend attractiveness and variety of flavor to diet.
4. They give some energy; they add calories, and should not be taken simply as a relish or appetizer.
5. They are a natural tonic, superior to the drug store supply.

RAW, FRESH FRUITS:

Eat some every day—oranges, grapes, bananas, grapefruit, lemons, pears, pineapples, berries, apples, figs, guavas.

Be very careful to *wash thoroughly* all raw fruit before peeling or eating. The person with normal digestion should eat peelings of apples, grapes, pears. Young children should not.

HEALTH POINTS ABOUT FRESH FRUITS:

1. Consult a physician about giving raw fruit to small children. Tomato or orange juice strained may be given to children—one teaspoonful for babies three to six months, one tablespoonful for babies at six months, and the juice of an orange by the time the baby is one year old. Cooked fruits and juices of fresh fruit may be given until about the age of five. After that age, a child may eat a moderate amount of raw fruit.
2. Bananas should be eaten only when ripe. They are ripe when the outside skin is dark brown. They are overripe when not firm. Always scrape away the white stringy material and $\frac{3}{4}$ inch at ends.
3. No minerals or vitamins are lost from fresh fruit.
4. Cook fruit (when it must be cooked) in a small amount of water, cover tightly, and only until tender. Use very little sugar, and add it just before removing from fire. Only $\frac{1}{2}$ the usual quantity is then necessary.
5. Baking is a good method for cooking apples, bananas, and pears.
6. Prunes, dates and figs may be added to cereal just before cooking is completed. They add natural sugar and make the cereal more palatable.

DRIED FRUITS:

1. They have much less vitamin than fresh fruits.
2. They are often less easily digested than fresh fruits.

3. They are comparatively cheap.

4. They should be thoroughly washed, then soaked in lukewarm water and cooked tightly covered in the same water in which they were soaked. Sugar is not usually necessary. If used add only a small quantity just before removing from fire. Much flavor and health value are lost in over-cooking. Cook only enough to make tender. Use the juice! Raw fruits, for those old enough or well enough to digest them, are best.

FOOD VALUE OF FRUITS

1. Dates, figs, prunes and raisins are rich in iron.
2. Bananas, alligator pears, and plums are rich in energy value.
3. Oranges, lemons, grapefruit and tomatoes are especially rich in vitamin C.

CLUB PROGRAM

Object: 1. To learn the food value of fruits.

2. To learn to prepare fruits.

Answer to roll call with suggestions as to ways of preparing fruit for the table, plain, cooked, salads and desserts.

Home Work: 1st year—Prepare 2 fruit dishes.

2nd year—Prepare 4 fruit dishes.

Demonstration: Use fruit to make milk attractive and palatable to children.

Prepare drinks, custards, whips, or other simple combinations of fruit and milk.

Experiment: To show change of starch to sugar in ripening fruit. Peel a ripe and an unripe banana. Cut through center of each. Place small amount of iodine on each cut. Iodine turns starch blue. Which banana contains greater amount of starch?

Which is more easily digested?

Suggested Work: Have members keep a chart of amount of fruit used in the home for a week. Make plans for increased supply of fruit on the farm.

PROGRAM VI

CEREALS

Whole grain cereals give us heat and strength, furnish us a cheap food, help us to use more milk, give us bulk, mineral and vitamin content.

The four groups of cereals are:

1. Whole grains ground.
2. Whole grains steamed and then ground or rolled.
3. Predigested (by malt). These are expensive and highly over-rated. (Farmers' Bulletin No. 249.)
4. "Milled Products" freed of bulky cellulose or outside bran.

Whole cereals are better than refined cereals. They contain more:

Lime to build strong teeth and bones.

Iron to make good blood.

Bulk to prevent constipation.

Vitamins to keep us well.

Fat or oil of the germ of the seed.

Both have energy value, but whole cereals have mineral and vitamin and bulk in addition. Some whole cereals and whole cereal preparations:

Oatmeal or rolled oats	Ralston
Cracked wheat	Wheatena
Unpolished rice	Shredded wheat
Pettijohn	Whole wheat or graham bread

Refined Cereals:

Cream of wheat

Farina

Corn flakes

Post toasties

White bread

Muffins and biscuits (white)

White crackers

Oat products, as a rule, keep better and cost less, according to the amount of nourishment contained. Oatmeal and rolled oats represent almost the whole oats. They are rich in fat and in protein.

HOW TO COOK CEREALS

1. Boil the necessary amount of water.
2. Add one level teaspoonful salt for every quart of water.
3. Add cereal slowly, stirring well.
4. Cook at least five minutes over the fire, then cook in double boiler. The time varies with cereal and with person. Cereals for babies, small children, and sick people should have long cooking. The fireless cooker method is best.
5. If it is hard to get the child to take enough milk, try cooking the cereal in milk instead of water.

SERVING CEREALS

Use as little sugar as possible. Use fruit such as dates, figs and raisins slightly cooked in the cereal. Milk is preferable to cream; butter may be used for variety. In cases of constipation bran may be added to cereal before cooking.

Cooked cereals, rather than dry products, are to be recommended for regular use with young children. The child gets more nourishment according to bulk from the cooked cereal. Occasional use of dry cereals is not objectionable for older children. No child should make an entire meal of cereals.

CLUB PROGRAM:

Subject: Cooking Starch Foods.
Study of Sugar.

Home Work: First year—Prepare 2 cereals.
Second year—Prepare 4 cereals.

Experiment:**I. Effect of water on sugar:**

Place one teaspoonful granulated sugar in a test tube; add a little cold water; shake. Does it dissolve? Set it aside. Does it separate from the water? Make the same experiment with hot water. What is the difference in results?

Experiment II:**1. Effect of cold water on starch.**

Mix $\frac{1}{2}$ teaspoonful corn starch or flour with cold water in test tube or glass cup. What happens? Is starch soluble in cold water?

2. Effect of heat on starch.

Put the starch mixture into a pan and heat. Return to cup. What change has taken place? Set mixture aside for a few minutes. Have starch and water separated? How does it differ from sugar? From uncooked starch?

Experiment III:

Cook $\frac{1}{2}$ cup oatmeal 20 minutes. Have one member bring from home $\frac{1}{2}$ cup oatmeal cooked 2 hours in double boiler or in fireless cooker. Serve both hot. Compare taste.

Experiment IV:

Have club member take small amount of cereal and chew until taste becomes sweet. What is happening? Test crumb and crust of bread in the same way. Which is sweeter? What effect does cooking have on starch? Does it aid digestion? Why should cereals have long cooking?

STARCHES AND SUGARS

Starches and sugars are both energy foods. Nature stores starch instead of sugar in many foods for us because sugar will ferment. Later Nature turns this starch into sugar. However, we eat some of the foods as starch. Then we must, by cooking or by digestion, turn this starch into sugar and then into simple sugars so that it may go throughout the body as nourishment. Seeds, roots, and some stalks have a large amount of stored starch. It is well to remember that sweets, breads and cereals, as well as fats (such as butter), give us fuel and some of these classes should be in each day's food. It is better to get our sweets in combination with building material as in cereals. Candy if taken on an empty stomach mixes with the acid of the stomach and ferments. Therefore, candy or sweets should be taken only at the end of the meal.

PROGRAM VII

MEAL PLANNING AND SERVING

The club member is her own best exhibit of what she has actually learned about nutrition. The meal she can plan now is the test of what she has learned about foods.

Milk first! Green vegetables! Whole grains! Fruits. Eggs. A cow. A garden. And chickens. All are necessary for the club girl in the rural home.

The basis of meals for every day should be one quart of milk for children, one pint for adults. With this should go at least two vegetables other than potato, preferably green leafy vegetables. Whole grain cereals (as breakfast food or in bread) and fruits (fresh, canned or dried) should be served often. Eggs should be used in generous amounts in cooking and often as a main dish for breakfast or supper.

Economy will be practiced by:

1. Choosing foods in season.
2. Using home-grown products.
3. Conserving garden products for future use.
4. Serving a generous amount of a few foods each meal, rather than too many foods at one time.

Appetites will be stimulated by:

1. Choosing different foods from day to day.
2. Finding new ways to prepare common foods.
3. Selecting foods of color to lend attractiveness.

HEALTH AND GROWTH:

"Fat" and "well-fed" do not mean the same. Health-giving, growth-promoting, and regulating foods are needed as much as energy and building foods. Age and activity and size of the members of the family count too in choosing kind and amount of food. Children should keep up to or above average weight, and grown-ups should be average or below. Calories will not be discussed yet, but generous servings of each food should be allowed in the planning of the meal.

If not enough food is taken, what happens? One uses the stored fat in the body. When that is all gone the muscle is used. No wonder the person who is ill and cannot eat gets thin. No wonder the girl who says, "I don't like this and I don't like that," remains underweight.

If one forms the habit of eating too much of certain foods, such as meat or sweets, he crowds out other better foods, such as milk.

The best plan, then, is to learn as much as possible about foods for health; to plan meals according to what is learned, and to eat regularly a generous amount of different kinds of foods; to weigh at least once each month on the same scales and re-

cord the weight, finding out whether or not the average gain is being made; to think health, happiness, and service. If results are not satisfactory, have a thorough examination by a good physician and find out what is standing in the way.

PLANNING AND SERVING THE MEAL

CLUB PROGRAM :

Home Work: First Year—Plan, cook, and serve one meal (breakfast, dinner, or supper) for the family.
Second year—Plan, cook, and serve one day's meals for the family.

Report :

Menu for one meal.

Discussion :

Criticism by club as menus are read.

Talk by Leader :

"Points to be considered in Meal Planning."

Demonstration :

1. Serve a balanced picnic supper.
Plan meals using food models.
2. Writing of menus (by each member) of the meals to be prepared at home for exhibit. Base menus upon the preceding lessons on milk, eggs, vegetables, fruits, and cereals. Reread "Body Needs and Foods to Meet These Needs."
3. Check health and food record of club member.

Bulletins :

Florida State College for Women, Bulletin No. 28, "Serving."

Farmers' Bulletin No. 1313, "Good Proportions in the Diet."
Food Models by Lydia Roberts, University of Chicago Press.

PROGRAM VIII

SUGGESTIONS FOR COUNTY CONTEST DAY

Exhibit all records.

Exhibit, by food models or actual food, well balanced meals for day for girl 12 to 14 years.

1. Reports:
 - a. Best menu.
 - b. Best record in improved nutrition by club member.
 - c. Best record in food production and utilization.
2. Health Play.
3. Selection of Healthiest Club Girl to enter State Contest.
4. Selection of Best Posture Girl among group selected in Club Contests.
5. County Salad Demonstration Contest.

CHART FOR MEAL PLANNING

I. Energy-giving Foods			II. Body Building and Regulating Foods				III. Protective Foods		
			Muscle	Bone, Teeth and Regulating			Vitamins		
Starches	Sugars	Fats	Proteins	Lime	Iron	Roughage	A.	B.	C.
Breads and Cereals Crackers Macaroni Rice Grits Potatoes Beans and Peas Tapioca	Sugar Molasses Honey Syrup Fruits Jelly Preserves Jam Cake and other desserts Candy	Butter Cream Cheese Lard Bacon Fat Vegetable and animal fats and oils. Peanut-butter Nuts	Milk Eggs Cheese Lean meat Fish Fowl Beans Peas Whole cereals Nuts	Milk Cheese Buttermilk Skim milk Cottage Cheese Beans Celery Cauli-flower Spinach Turnip greens Turnips	Egg Yolk Spinach Turnip greens Red Meat Whole grain cereals Prunes Raisins Figs Dates Carrots Celery Cabbage Lettuce Onion	String Beans Spinach Lettuce (raw) Cabbage (raw) Fruits (raw) Asparagus Celery Onions Dried Fruits Whole Grain Cereals	Butter Cream Milk Egg Yolk Spinach Greens Liver Kidney Raw, fresh Cabbage Carrots Tomatoes Yellow Corn Sweet Potatoes Pineapple Yellow Squash	Eggs Spinach Milk Whole Cereals Tomatoes Beets Cabbage Turnips Carrots Nearly all vegetables if water in which they are cooked is used. Oranges Grapefruit Pineapple Nuts Apples and many fresh fruits.	Orange Grapefruit Lemon Lime Tomatoes Carrots (raw) Lettuce (raw) Onion (raw)
Plan meals with plenty of milk, eggs, fresh fruits, green vegetables, whole grain cereals.			Basis of good meals for each day 1. One qt. milk 2. Two salads 3. Two green vegetables cooked. 4. Fruit			Use water in which fruits and vegetables are cooked.			