

R
630.8
N815ex
August 1916

Library, New Mexico State College

Agricultural Extension Bulletin No. 4

AGRICULTURAL EXPERIMENT STATION

The Rural Hot Lunch

NORTH DAKOTA AGRICULTURAL COLLEGE

AGRICULTURAL EXTENSION DEPARTMENT

THOMAS P. COOPER, Director.

NMSU
WITHDRAWN

AGRICULTURAL COLLEGE, NORTH DAKOTA

Distributed in furtherance of Cooperative Agricultural Extension Acts
of May 8 and June 30, 1914

The Rural Hot Lunch

By MAY C. McDONALD and JULIA O. NEWTON

It is now a generally accepted fact that a child's mental condition depends largely upon his physical condition, so that progress in school requires a consideration of factors which in the past have not received their due share of attention. It is as much the duty of school authorities to make thoughtful provision for the physical well-being of a child as it is to provide a proper school-house, an intelligent teacher, up-to-date text books or any of the other educational needs. The long, sometimes extremely cold winters and the great distances some pupils live from the schools, make the noon-day lunch one of the most vital problems to be considered by all who are interested in the best all around development of our North Dakota boys and girls. This problem can be solved only by the cooperation of the home and the school authorities.

The rural school hot lunch has passed the experimental period. The plan has proved its feasibility and value under so many and such trying circumstances that its advocates now feel that it will succeed under even the most adverse conditions. The interest and enthusiasm of both teacher and parents are the largest determining factors.

The following suggestions as to plan and procedure are offered with the assurance that, given the interest and cooperation of the teachers and parents, there is not a single rural school in North Dakota which cannot enjoy the physical benefits and achieve the educational possibilities of the hot lunch plan.

AIMS.

In order to eliminate misguided or unfruitful effort the following aims should be kept constantly in mind.

Physical.

To maintain in the child that degree of physical well-being so necessary to fruitful mental activity.

Educational.

To teach food facts, preparation of food, hygiene, proper eating habits, etc.

To develop the ability to make and to execute plans.

Social.

To give order and sociability to the noon hour.

To develop tact, friendliness and a spirit of co-operation.

FOOD REQUIREMENTS OF SCHOOL CHILDREN.

In common with the adult, the child needs food material sufficient to maintain body temperature, furnish energy, repair wastes and maintain body fluids. But in addition, the child requires an excess in order to meet the needs of growth. Therefore in order to get the proper balance, the entire supply of food for the day should be planned at one time.

In many homes the noon meal is the main meal; the breakfast (at least for the child) is light and hastily eaten, while the evening meal is a moderate one. As the child must miss the main meal at home each school day for a greater part of the year, the problem of the school lunch becomes a serious one. Especially since the child must obtain from that lunch a large portion of the daily food supply.

HOME PREPARATION.

The lunch should be so planned as to be satisfying and nutritious but not heavy. A heavy lunch causes mental sluggishness. The planning and preparing of a lunch to be carried is more difficult than of one to be served at home. The variety possible is limited by the fact that some excellent foods are not good cold and others cannot be carried conveniently. The use of containers made of parchment paper or paraffined paper or glass (peanut butter cans, etc.) greatly increases the available foods by adding a large group of semi-liquid foods. (As raw and stewed fruits, puddings, custards, cottage cheese, etc.)

The lunch should contain—

1. A large proportion of plain, nutritious and mild flavored food, chiefly sandwiches.
2. A succulent food as fresh fruit, fruit sauce, fresh tomatoes, light salads, celery, lettuce, etc.
3. A sweet such as home-made candy, cookies, simple cakes, cup custards, puddings, preserves, etc.

SUGGESTIONS FOR SANDWICHES.

Bread is the most important item in the lunch and should be of the very best quality for it serves not only as a food but also as the means of keeping other foods in good and appetizing form.

As much variety as possible should be sought in planning bread for the lunch, in order that monotony may be avoided. Wheat, whole wheat, corn, rye, oatmeal, nut and raisin breads crisp rolls, toast, zwieback and crackers afford a wide range. Rolls hollowed out and filled with sandwich filling are pleasing.

Bread should be cut in thin even slices. Several thin sandwiches are much more appetizing than one thick one. Soften butter by creaming it with fork or spoon and then spread evenly on both slices of bread. Cut sandwiches into convenient sizes for packing as well as handling and wrap in waxed paper.

SANDWICH FILLING.

1. Salad dressing and one of the following:—hard cooked eggs, mashed cold baked beans, lima beans, minced meat, apple and cheese, sliced tomato.
2. Sweet fillings:—dates and nuts ground, raisins and nuts, jelly, jam, marmalade, thin slices of preserved ginger.
3. Miscellaneous:—cottage cheese and chopped nuts, thin slices of bacon and chicken or veal.

PACKING THE LUNCH.

In selecting a suitable receptacle for carrying the lunch certain points should be carefully considered. It should be easily cleaned and scalded, properly ventilated and as convenient as possible for carrying. A metal box or pail can have a few small holes punched in it to permit air to enter.

Paper napkins, paper towels and paraffin paper which can be obtained very cheaply if bought in large quantities, aid greatly in packing an appetizing lunch. Two napkins should be put in top of box, one to be used as napkin and one to be spread on school desk. Hemmed squares of crepe make very handy lunch napkins as they need no ironing. Each separate kind of food should be wrapped in paraffin paper. When packing the lunch, place the more solid packages at the bottom so those most likely to crush will not have any weight on them. Keep a supply of small paper cups, jelly glasses with covers, and screw top jars so that some moist food can be put in each day's lunch.

Hot dishes prepared at the school are intended to supplement but not supplant the lunch brought from home. The list of dishes for a given period should be planned and announced so that the home lunch may not duplicate it.

EQUIPMENT FOR PREPARING HOT LUNCH.

The amount and kind depends upon circumstances. While an adequate equipment makes for convenience and efficiency, no school community need hesitate to attempt the plan because of insufficient equipment. Wherever possible it is better to have the school board furnish the necessities. Sometimes loans may be obtained from patrons or the money may be raised by a school social or by other means. One of the best ways known is that of having a donation party. In many instances farmers' or community clubs will gladly aid in equipping the school, as such equipment would then be available for use at their meetings.

STOVES.

In some schools ample space can be found for a kettle on the top of the regular heating stove. Where the modern jacket stoves are used, a separate stove will be needed. Even a single burner straight wick oil stove which can be purchased for less than a dollar will do to start with. A two burner round wick oil stove is most satisfactory. A portable oven, although not in the list of necessities, is not expensive and will greatly increase the number and kind of foods which may be served.

CUPBOARDS.

The big boys of the school can plan and make the cupboard out of packing boxes by putting the cover on hinges for a door and fitting in shelves. This should be painted inside and out. If made the proper height, the oil-stove may be placed on top of this cupboard

while all supplies are kept inside. Where cupboards are not possible, shelves may be used which should be curtained to keep out the dust. A window shade adjusted at the top of the shelves is the most convenient and practical. Where cabinets are a part of the rural school equipment, one portion might be reserved for cooking utensils and supplies.

TABLE.

If additional table space is needed, a couple of wide drop shelves will be very convenient in the preparation of the hot dish.

FIRELESS COOKER.

A fireless cooker will be found helpful. By carefully following the directions given below the students can construct a very efficient homemade cooker.

Outside retainer:—A candy pail, galvanized iron pail, wooden box or any kind of a firm tight receptacle that will hold an inner vessel and allow several inches of packing all around it will serve the purpose.

Food container:—A receptacle with straight sides and tight flat cover that can be used on the stove, as a tin or an agate pail.

Nest:—The nest must fit around the food container exactly and leave no air space. Pasteboard with ends lapped and securely fastened may be used, although asbestos which may be purchased at the hardware store is the best. Cut a circle of material a little larger than the nest for the bottom.

Packing:—Hay, excelsior, sawdust, shredded paper or mineral wool will serve well as packing. Mineral wool is the best. Fill bottom of outside retainer to a depth of several inches. Put in pasteboard bottom and cylinder. Pack space tightly between nest and outside. Cut circle of pasteboard to fit on top. Have a cushion with removable washable covers and same packing or whatever filler desired to fill space between top of nest and top of retainer. The outside cover, when fastened down, must press the cushion tightly on top of the nest.

UTENSILS.

(Minimum Requirement.)

1 large kettle	2 dishpans
1 slightly smaller kettle, or	5 dish cloths
1 double boiler	8 dish towels
1 cooking spoon	1 teaspoon
1 tablespoon	1 fork
1 fireless cooker (homemade)	1 measuring cup
	1 paring knife

SUPPLIES TO KEEP ON HAND

Small tightly covered can of flour.
 Small tightly covered can of sugar.
 Salt, pepper, etc.
 Pound of cocoa.

PERSONAL EQUIPMENT.

Each student should furnish for his own use, a knife, fork, spoon, large cup and saucer, and a plate, which can be kept with the general equipment.

HOW TO OBTAIN FOOD MATERIALS.

Materials used in preparation may either be purchased by the school and each pupil assessed from one to three cents per day according to expense incurred; or each family whose children attend school may furnish supplies as many times each month as the proportion of their children to the whole attendance. Where pupils are engaged in Canning Club work, each one would be glad to label a few of their jars for school use. A Saturday early in September might well be used for a canning bee at the school or one of the farm homes. Here the cold pack method of canning could be taught, at the same time that a supply of vegetables for school lunches could be secured.

DISHERS WHICH MAY BE SERVED.

1. Beverages: cocoa, instant postum.
2. Soups: cream of vegetable as corn, potatoes, peas, beans, meat, tomato, etc.
3. Chowders: potato, corn, fish.
4. Plain boiled vegetables with seasonings.
5. Creamed vegetables.
6. Cereals: cooked in fireless cooker.
7. Stews: meat, vegetables or combinations.
8. Escallops and baked dishes if there is an oven.

Note: Potatoes may often be baked in ash pan of the stove.

SUGGESTED RECIPES.

The following abbreviations are used:

- t. = teaspoon.
 T. = tablespoon.
 c. = cup.
 lb. = pound.

CREAM OF VEGETABLE SOUPS.

Cream of vegetable soups are made by adding pulp of a cooked vegetable to thin white sauce.

SAUCES.

KINDS	Flour		Butter		Liquid	Pepper	Salt
	T	T	T	T	c.	t	t
Thin white sauce (soups)	1	1	1	1	1 milk	$\frac{1}{8}$	$\frac{1}{2}$
Medium white sauce (cream, es- callops, etc.)	2	2	2	2	1 milk	$\frac{1}{8}$	$\frac{1}{2}$
Thick white sauce (croquettes)....	4	4	4	4	1 milk	$\frac{1}{8}$	1

Melt butter in saucepan, add flour mixed with seasoning and stir until smooth. Pour milk on gradually and stir until well mixed and smooth. Boil thoroughly 3 to 5 minutes according to quantity made. To avoid danger of scorching this may be made in double boiler.

CREAM OF PEA SOUP.

1 can peas	2 T. flour
2 c. milk	1 t. salt
2 T. butter	$\frac{1}{4}$ t. pepper

Heat the peas in their own liquor and rub through a strainer or mash with back of spoon. Make white sauce, then add peas and cook together two or three minutes.

CREAM OF TOMATO SOUP.

2 c. tomatoes (or 1 can)	1 t. sugar
4 T. butter	1 t. salt
4 T. flour	$\frac{1}{4}$ t. pepper
4 c. milk	$\frac{1}{2}$ t. soda

Cook tomatoes for 10 minutes, while preparing white sauce. Add soda dissolved in two teaspoons of water to tomatoes, and combine with white sauce.

CLEAR TOMATO SOUP.

2 c. tomatoes	1 t. salt
4 c. water	$\frac{1}{4}$ t. pepper
4 T. butter	1 T. chopped onion (if desired)
4 T. flour	

Cook tomatoes and onion together for 10 minutes while combining butter, flour, seasonings and water, and then mix together.

CHOWDERS.*

"The ingredients are milk; a fatty substance, which is usually salt pork—though butter may be used—potatoes or crackers, often both; and in addition to these, one of the following:—fish, which may be either fresh or salt; green corn, fresh or canned; parsnips, vegetable oysters, kohlrabi, or celery. A chowder consisting mainly of milk, potatoes and crackers and flavored with a little salt codfish is perhaps the most economical of these dishes."

POTATO CHOWDER.*

6 medium-sized potatoes sliced	1 T. flour
$\frac{1}{4}$ lb. salt pork, cut into dice	2 c. milk
1 T. butter	2 c. water
1 T. chopped onions	1 t. salt

"Brown pork and onions together. Put a layer of the sliced potatoes into a kettle, then a layer of onions and pork, and sprinkle with salt. Repeat this until the materials are all used. Pour over them the grease from the pan in which the pork and onions were cooked and add the water. Cover and simmer 20 minutes or until the potatoes are tender. Thicken the milk with the flour mixed with the butter and pour it over the potatoes. Stir carefully, so as not to break the potatoes. Serve very hot."

* Adapted from Farmers' Bulletin No. 712, "School Lunches."

BROWN STEW.*

“For this dish the cheaper and less tender cuts of beef, such as the rump and round, can be used. Remove the meat from the bone and cut it into small pieces. Roll in flour and cook in a small amount of fat until it is well browned. Add hot water, about 1 quart to every pound of meat; season with salt, pepper, and onion, and cook slowly for an hour. The meat should be very tender and the gravy thick. Tomato and other vegetables may be added while the stew is cooking.”

SIMPLE WAYS OF USING COMMON VEGETABLES.

ESCALLOPS.

This method can be used in the original preparation of vegetables or it may be used as a means of reheating and preparing left-overs. It not only affords variety, but adds fuel value to the particular vegetable used. The method consists in arranging in a bake dish alternate layers of the vegetable and of cream sauce and placing on top a layer of buttered crumbs which keep in the flavor as well as develop a desirable flavor by their browning. Grated cheese may be added to the white sauce or sprinkled over the top. If the vegetables have been previously cooked, 20 to 30 minutes cooking in a moderate oven will be sufficient.

Hints:—

Potatoes—Better flavor if raw potatoes are used. Addition of cheese gives pleasing flavor.

Corn—Some like to alternate layers of corn and white sauce with layers of soft bread crumbs.

Cabbage—Delicious when cheese is added.

Cauliflower—Same as cabbage.

Onions—Addition of bread crumbs as in corn is good.

Carrots and Peas—Alternate layers of these and white sauce make a pleasing blending of flavors.

CREAMED VEGETABLES.

Cook and drain vegetables, then pour over them a medium white sauce and cook until all are thoroughly mixed and heated. When put into serving dish, a sprinkle of grated cheese over the top adds to the flavor.

LIMA BEANS AND TOMATOES.

2 c. green lima beans or 1 c. dried ones soaked over night.	
2 T. butter	½ can tomatoes
Slice onion	1 t. salt
	½ t. pepper.

Melt butter, add finely chopped onion and brown. Add beans, stirring constantly, pour over this the tomatoes and seasonings. Cook with moderate heat until beans are done.

* Adapted from Farmers' Bulletin No. 712, "School Lunches."

CEREAL COOKERY.

Important cereals: wheat, corn, oats, rice, rye, barley.

Cereals should be extensively used because they are rich in nutrient and contain comparatively little refuse. They are comparatively inexpensive, keep well, are easily prepared and are palatable when properly cooked.

PURPOSE OF COOKING.

1. To sterilize.
2. To improve and break down woody fibre so that the starch will be set free and then can be acted upon by the digestive juices.

METHODS OF COOKING.

1. From start to finish in boiling water.
2. Started in boiling water and then set in fireless cooker for several hours.

Cereal	TIME FOR FIRELESS COOKER.	
	Time over fire.	Time in cooker.
Oats	5 min.	8—12 hrs.
Wheat	5 min.	8—12 hrs.
Corn	10 min.	8—12 hrs.
Rice	5 min.	1—2 hrs.

OATMEAL IN FIRELESS COOKER.

Measure one quart of boiling water and 2 teaspoons salt in food container. Add gradually 2 cups oatmeal. Boil 5 minutes over a flame. Put cover on pail, place container in nest, put pasteboard cover on, then cushion. Fasten outside cover down firmly and allow oatmeal to remain in cooker from 8 to 12 hours or over night. If necessary, reheat oatmeal before serving.

RICE AND CHEESE.

$\frac{1}{2}$ c. rice
 3 c. milk
 $\frac{1}{2}$ t. salt
 1 c. cheese, finely cut
 1 T. butter.

Scald milk, add rice, cook thoroughly, add cheese, butter, etc., and cook until cheese melts. Serve.

SUGGESTIVE PLAN.

PLANNING OF HOT DISH.

Plans for each day should be made from two to four weeks in advance. If the teacher does not feel capable of doing this planning, a splendid opportunity for school and home cooperation is afforded. The women of the community at a meeting of their Woman's Club, Farmers' Club, Ladies' Aid Society, or any similar organization, may appoint a committee of three. This committee should plan one suitable hot dish for each of the days assigned to them. A list of ingredients and the proper proportions for the size of the school, together with definite directions for preparation should be given with each day's plan. A simple card catalog method of keeping this information can be easily developed.

ASSIGNING WORK.

On Friday the teacher may write on the board the food to be served each day of the following week. If pupils are to supply materials, those who are to do so should be given slips stating exact amounts of what they are to bring. It will be necessary each evening to remind the pupils who are to bring the next day's supplies.

One older pupil to cook and a younger one to assist should be appointed for the week ahead. Two housekeepers to clean up should also serve for the same time. The boys should share equally with the girls in this work. The cook should do all things necessary in preparation either before school calls or at recess, so that only the actual process of cooking should take place during school time. While the cook is getting the food ready to serve, after the noon dismissal, the assistant should get service dishes ready, pass two paper napkins (one to lay on desk and one for napkin) to each pupil and then be ready to pass the hot food. When all are through eating, the housekeepers should wash dishes, put everything away neatly and sweep floor if necessary.

EATING OF LUNCH.

Each person should sit at his own desk. Spread paper napkin for table cloth. Arrange drinking cup and knife, fork or spoon if needed.

Sit upright, do not lean.

Spread napkin in the lap.

Keep elbows at the side.

Never attempt to talk with the mouth full.

Never use the knife for any purpose except that of cutting food.

Eat slowly and quietly.

Remember that happy cheerful conversation is an aid to digestion.

ILLUSTRATION OF PLAN.

Bertha, a girl 14 years old, is the cook, while Jane 10 years old, is the assistant. On Tuesday potato soup has been planned. Monday evening Miss Barnett, the teacher, will remind the boy who is to bring the potatoes and the girl who is to furnish the milk and butter. Tuesday morning, if Bertha cannot get to school much before nine, she pares her potatoes at recess, puts them in cold water, has a kettle of water ready to heat, and measures other ingredients. A little after eleven she must start water to heat and later put in the diced potatoes. When school is dismissed at noon and the other pupils are cleaning up, she can easily finish preparation of soup. Jane will put the two napkins on each desk and arrange the large cups which are to be used as soup dishes so that they may be easily filled. She and Bertha must be watchful through the meal to see that all are supplied. As soon as the meal is finished, each pupil carefully cleans up his own desk and carries cup and spoon to place where dishes are to be washed, and puts napkins in waste basket. This week Harry and Tom are the housekeepers, so they wash the dishes and the cooking utensils, clean up the table and the stove, put away all the utensils and the materials and then sweep the floor.

SUGGESTION.

In case the opportunities for cooking at the school are very limited, the mothers often agree to provide for one day out of the week by taking turns in sending a dish either in the fireless cooker or one that may easily be re-heated at school, as baked beans, macaroni and cheese, escalloped tomatoes or corn, etc. Thus the school need plan for only four days and at the same time, much greater variety in foods can be afforded. In an average size school, no mother would have to send more frequently than once in two or three months.

CORRELATION OF THE HOT LUNCH WITH THE REGULAR SCHOOL WORK.

The hot lunch plan would justify itself if it were developed to supply the physical needs only. However, the educational possibilities of the plan are unlimited. At first thought it would seem inadvisable to add anything to the over-crowded curriculum of the rural school with its one teacher for everything. But through correlation much needed information may be given. This will vitalize the subjects usually taught in an abstract manner and will not consume any more time or energy.

For example, in the arithmetic class the proportions of the various materials to be used for the lunch could be given and the quantity needed determined, for the principles of arithmetic are the same, no matter what symbols are used. Current prices for all the materials used can be looked up from time to time and very definite problems in regard to cost of total amount served and of per capita cost can be obtained. The production, cultivation, care and use of the products could and should be taught in agriculture. The physiology class could not have a more important topic than the food requirements of the body and the way in which these are met by various food combinations. In the geography lesson, the source of the materials used might be found and their transportation traced. In the language and grammar classes, stories based on the geography lessons and accounts of experiences in performing the work will interest the pupils. The spelling lesson and penmanship practice will be vitalized by using material based on this work.

Even the art class may be given most interesting and instructive work based on the day's lunch. One of the most successful art lessons ever witnessed in a rural school was the drawing of a few potatoes. The grouping, outlining and shading were definite and valuable art exercises. In addition, however, the student learned the percentage composition of the potato as it was divided and shaded so that 78 per cent of it represented water, 2 per cent tissue building material, 18 per cent heat producing material, and one per cent mineral matter. If the students had not drawn the potatoes, they would have been set to drawing and shading a wooden sphere, which certainly does not have the native interest to a child.

There is seemingly no end to the various ways in which the rural hot lunch may be made one of the big factors in the life of every

rural school. The increase in both physical and mental capacity of all the pupils, the live interest added to almost all of the school subjects, the knowledge gained either directly or indirectly in regard to proper planning of food, its preparation and its sanitary care, and the definite provision for a social hour under the guidance of the teacher constitute a set of arguments in support of the plan which cannot be overruled.

A partial list is given below of the free publications of the U. S. Department of Agriculture that will be of interest in connection with this bulletin. These may be obtained by application to the Chief, Division of Publications, U. S. Department of Agriculture, Washington, D. C.

- F. B. 34—Meats: Composition and Cooking.
- F. B. 85—Fish as food.
- F. B. 121—Beans, peas, and other legumes as food.
- F. B. 128—Eggs and their uses as food.
- F. B. 249—Cereal breakfast foods.
- F. B. 256—Preparation of vegetables for the table.
- F. B. 293—Use of fruit as food.
- F. B. 295—Potatoes and other root crops used as food.
- F. B. 298—Food value of corn and corn products.
- F. B. 332—Nuts and their uses as food.
- F. B. 363—The use of milk as food.
- F. B. 375—Care of food in the home.
- F. B. 389—Bread and bread making.
- F. B. 391—Economical use of meat in the home.
- F. B. 413—The care of milk and its use in the home.
- F. B. 487—Cheese and its economical uses in the diet.
- F. B. 535—Sugar and its value as food.
- F. B. 565—Corn meal as a food and ways of using it.
- F. B. 653—Honey and its uses in the home.
- F. B. 712—School Lunches.

(Note)—Abbreviation used: F. B.—Farmers' Bulletin.