

T H E S I S .
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A DIETARY STUDY
of a
FAMILY
of
FOUR.

Grace Smith.
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O U T L I N E .

I. Object of Experiment.

II. Data.

III. Menus.

IV. Conclusion.

A DIETARY STUDY OF A
FAMILY OF FOUR.

The object of this experiment was to consider the cost, caloric value, and nutritive ratio of the ordinary, every-day-diet of a family of four for one month.

The materials were weighed as purchased, and a complete list kept, together with the cost of each.

After every meal the waste was collected and weighed, and these amounts according to the percentage composition were tabulated in the same manner as the amounts used. After the total waste was found, it was subtracted from the totals of the materials purchased according to the percentage composition. Hence the amount remaining was the food actually consumed.

Below is given the list of foods in tabulated form, showing the amount purchased, cost, percentage composition and fuel value of each. The table for the waste is filled out in the same manner.

Materials	Amounts used. lbs.	Cost	% Composition.			Fuel Value per pound.	Pro.	Fat.	Carb.	Fuel Value
			Pro.	Fat	Carb.					
Milk	107	\$3.21	3.3	4.	5.	325.	353.1	428.	535.	34775.
Flour	55	1.43	12.3	1.1	73.	1635.	676.5	60.5	4015.	89925.
Eggs	15	1.40	11.9	9.3	--	3605.	178.5	139.5	--	54075.
Butter	11 1-4	2.885	1.	85.	--	635.	11.25	955.4	--	7143.75
Sugar	23	1.835	--	--	100.	1860.	--	--	2300.	42780.
Potatoes	30	.50	1.8	.1	14.7	310.	54.	3.	441.	9300.
Cabbage	3 3-4	.15	1.6	.3	5.6	145.	6.	1.125	21.	543.75
Oranges	7 1-4	.35	.6	.1	8.5	170.	4.35	.725	61.625	1237.50
Lemons	1 11-16	1.5	.7	.5	5.9	145.	1.18	.84	9.95	154.6875
Bananas	9	.63	.8	.4	14.3	300.	7.2	3.6	308.7	2700.
Prunes	6 1-2	.75	.7	--	17.4	335.	4.55	--	113.1	2177.5
Strawberries	7 1-2	1.10	.9	.6	7.	175.	6.75	4.	5.25	1312.5
Dried Plums	3-4	.15	.7	--	17.4	335.	.525	--	13.05	251.25
Evaporated Apples	1 1-3	.20	1.6	2.2	66.1	1350.	2.13	2.93	88.13	1800.
Coffee	3-4	.27	--	--	--	--	--	--	--	--
Postum	1 1-4	.20	--	--	--	--	--	--	--	--
Cocoa	1-2	.25	21.6	28.9	37.7	2320.	10.8	14.45	18.85	1160.
Canned Corn	5 1-2	.50	2.8	1.2	19.	455.	15.4	6.6	104.5	2502.5
Ice Cream	2	.15	--	--	--	--	--	--	--	--

Materials	Amounts used. lb.	Cost	% Composition			Fuel Value per pound.	Pro.	Fat	Carbo.	Fuel Value
			Pro.	Fat	Carb.					
Soda Crackers	4 1-2	\$.44	9.8	9.1	73.1	1925	44.1	40.95	328.95	8662.5
Graham "	1 3-4	.20	10.	9.4	73.8	1955	17.5	16.45	129.15	3421.25
Yeast Foam	1-4	.05	11.7	.4	21.	125	2.925	.1	5.25	156.25
Macaroni	1-16	.005	13.4	9.	74.1	1665	.8375	.5625	4.6312	104.0625
Tea Prepared	1-4	.13	--	--	--	--	--	--	--	--
Brk. Food	5	.81	9.6	1.1	78.3	1680	48.	5.5	391.5	8400.
Cream of Wheat	3 1-3	.287	13.1	2.1	74.1	1710	43.666	7.777	247.	5700.
Oatmeal	1	.067	16.1	7.2	67.5	1860	16.1	7.2	67.5	1860.
Graham Flour	5	.175	13.3	2.2	71.4	1670	66.5	11.0	357.0	8350.
Cornmeal "	2	.20	7.1	1.3	78.4	1645	14.2	2.6	156.8	3290.
Tapioca	1-5	.04	.4	.1	88.	1650	.08	.03	17.6	330.
Navy Beans	3 1-2	.29	22.5	1.8	59.6	1605	78.75	6.3	208.6	5617.5
Raisins	1	.17	2.3	3.	68.5	1445	2.3	3.	68.5	1445.
Cake	1	.20	7.6	9.	74.	1900	7.6	9.	74.	1900.
Bread	10	.50	9.1	1.2	52.1	1190	91.	12.	521.	11900.
Ginger Snaps	3-4	.10	6.5	8.6	76.	1895	4.875	6.45	57.	1421.25
Chipped Beef	1	.20	39.2	5.4	--	960	39.2	5.4	--	960.
Chuck Steak	2 1-2	.35	16.6	10.1	--	735	41.5	25.25	--	1837.5
Round Steak	3 1-2	.45	19.	12.8	--	895	66.5	44.8	--	3132.5

Materials.	Amounts used. lbs.	Cost	% Composition			Fuel Value per pound.	Pro.	Fat	Carb.	Fuel Value
			Pro.	Fat	Carb.					
Beef Roast (Rump)	1 3-4	\$.25	13.8	20.2	--	1110	24.15	35.35	--	1387.5
Beef (Neck)	3 3-4	.45	14.5	11.9	--	770	54.375	44.625	--	2887.5
Fish Breakfast	1 1-2	.30	11.6	16.6	--	915	17.4	24.9	--	1372.5
Bacon	3-4	.15	9.1	62.2	--	2795	6.825	46.65	--	2096.25
Cocoanut	1-2	.10	6.3	57.4	31.5	3125	3.15	28.7	15.75	1562.5
Gelatin	1-4	.10	91.4	.1	--	1705	22.85	.025	--	426.25
Tomato Preserves	3	.60	.7	.1	57.6	1090	2.1	.3	172.8	3270.
Rice	1	.09	8.	.3	79.	1630	8.	.3	79.	1630.
Lard	3 1-4	.41	--	100.	--	4220	--	325.	--	13715.
Cream	1 5-7	.30	2.5	18.5	4.5	910	4.285	31.57	1.28	1560.
Cheese	1	.20	25.9	33.7	2.4	950	25.9	33.7	2.4	1950.
Vinegar	3	.075	--	--	--	--	--	--	--	--
Salt	3	.05	--	--	--	--	--	--	--	--
Apple Butter	2	.15	--	--	--	--	--	--	--	--
Plum Butter	1-2	.10	--	--	--	--	--	--	--	--
Radishes	1	.20	1.3	.1	5.8	135	1.3	.1	5.8	135.
Onions	1-2	.10	1.4	.3	8.9	205	.7	.15	4.45	102.5
Lettuce	2 1-2	.25	1.	.2	2.5	75	2.5	.5	6.25	187.5

Materials.	Amounts used. lbs.	Cost	% Composition.			Fuel Value per pound	Pro.	Fat.	Carb.	Fuel Value
			Pro.	Fat	Carb.					
Rhubarb	10	\$.50	.6	.7	3.6	105	6.	7.	36.	1050.
Cornstarch	1-4	.032	--	--	90.	1675	--	--	22.5	418.75
Chocolate	1-4	.075	12.9	48.7	30.3	2860	3.225	12.175	7.575	715.
Soda 6 tsp.	1-32	.003	--	--	--	--	13.725	19.925	82.575	2608.75
Bking. Powder	1-16	.015	--	--	--	--	--	--	--	--
Clove (ground 4 tsp).	1-48	.008	--	--	--	--	--	--	--	--
Cinnamon 10 "	5-96	.02	--	--	--	--	--	--	--	--
Allspice 4 "	1-48	.008	--	--	--	--	--	--	--	--
Nutmeg 2 "	1-96	.004	--	--	--	--	--	--	--	--
Mustard 4 "	1-48	.002	--	--	--	--	--	--	--	--

WASTE.

Materials	Amounts used. lbs	Cost	Pro.	Fat	Carb	Fuel Value per pound	Pro.	Fat	Carb.	Calorie Value
Lettuce	1-8	\$.012	1.	.2	2.5	75	.125	.025	.3125	9.375
Steak	1-4	.03	19.	12.8	--	895	4.75	3.2	--	227.5
Cream of Wheat	3-16	.015	13.1	2.1	74.1	1710	2.454	.393	13.893	106.875
Prunes	1-16	.007	.7	--	17.4	335	.043	--	1.0875	20.9375
Canned Corn	1 1-6	.105	2.8	1.2	19.	455	3.266	1.4	22.166	530.83
Potatoes	1	.016	1.8	.1	14.7	310	1.8	.1	14.7	310.
Butter	1-8	.008	1.	85.	--	635	.125	10.62	--	79.33
Sugar	1-9	.008	--	--	100.	1860	--	--	11.11	206.66
Flour	3-8	.009	12.3	1.1	73.	1635	4.6125	.4125	27.375	613.125
Milk	1 1-8	.003	3.3	4.	5.	325	3.7125	4.5	5.625	365.625
Bread	2	.10	9.1	1.2	52.1	1190	18.2	2.4	104.2	2380.
Graham Flour	9-16	.018	13.3	2.2	71.4	1670	7.48	1.2375	40.1625	938.8125
Cabbage	1-2	.02	1.6	.3	5.6	145	.8	.15	2.8	72.5
Beef (neck)	5-16	.009	14.5	11.9	--	770	4.53	3.655	--	240.625
Rhubarb	1	.05	.6	.7	3.6	105	.6	.7	3.6	105.
Lard	1-8	.015	--	100.	--	4220	--	12.5	--	527.5
Beans	1-16	.005	22.5	1.8	59.6	1605	1.4	.1125	3.725	100.5125
		.460					53.898	41.4055	250.7565	6815.2075

The following is a list of the menus for each meal during the month:--

April 15th.

Breakfast.

Cream of Wheat. Apple Sauce.

Toast. Postum.

Lunch.

Crackers in milk. Fried eggs.

Bread and Butter. Apple Butter.

Coffee. Cake.

Supper.

Mashed Potatoes. Gravy.

Fried Eggs.

Bread and Butter. Apple Butter.

Milk.

April 16th.

Breakfast.

Cereal. Sugar and Cream.
Poached Eggs on Toast. Postum.

Lunch.

Potato Cakes. Fried Eggs.
Graham Bread. Butter.
Pieplant Sauce. Cookies.

Supper.

Mashed Potatoes. Gravy.
Beef Steak. Beet Pickles.
Graham Bread. Butter.
White Bread. Plum Butter.
Lettuce Salad.
Strawberries. Sugar and Cream.
Cocoanut Cake.

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April 17th.

Breakfast.

Bananas.

Cereal. Sugar and Cream. Coffee.

Eggs on Toast. Potato Cakes.

Lunch.

Crackers. Milk. Fried Eggs.

Bread and Butter.

Rhubarb. Wafers.

Supper.

Creamed Chipped Beef. Mashed Potatoes.

Bread and Butter.

Rhubarb. Coconut Cake.

April 18th.

Breakfast.

Bananas with Cereal.

Crackers and Milk.

Toast. Postum.

Lunch.

Fried Eggs. Coffee Egg Nog.

Bread and Butter. Apple Butter.

Prunes. Chocolate Cake.

Supper.

Steak. Hot Bread and Milk.

Prunes. Cookies.

April 19th.

Breakfast.

Graham Mush.

Buttered Toast. Postum.

Lunch.

Fried Eggs. Bread and Butter.

Milk.

Prunes. ***** Cake.

Supper.

Creamed Corn. Bread and Butter.

Cocoa with Eggs.

Rhubarb. Cake.

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April 20th.

Breakfast.

Graham Mush.

Toast. Cocoa and Egg.

Dinner.

Mashed Potatoes. Gravy.

Eggs and Bacon.

Bread and Butter. Apple Butter.

Milk.

Pieplant . Chocolate Cake.

Supper.

Ice Cream. Cake.

April 21st.

Breakfast.

Toast. Poached Eggs.

Cereal. Sugar and Cream.

Cocoa.

Dinner.

Potato Cakes. Brown Gravy.

Bacon. Eggs.

Bread and Butter. Milk.

Supper.

Beef Steak. Bread and Butter.

Lettuce Salad. Crackers.

Milk.

April 22nd.

Breakfast.

Creamed Toast. Poached Eggs.

Force. Sugar and Cream.

Postum.

Lunch.

Bread and Butter. Milk. Crackers.

Bananas. Sugar and Cream.

Cake.

Supper.

Potatoes. Brown Gravy.

Fried Eggs. Graham and White Bread.

Rhubarb. Hermits.

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April 23rd.

Breakfast.

Graham Mush.

Toast and Butter. Poached Eggs.

Postum.

Lunch.

Beans. Bread and Butter.

Fried Eggs. Milk.

Pieplant. Hermits.

Supper.

Beef Steak. Bread and Butter.

Graham Bread. Milk.

Strawberries.

April 24th.

Breakfast.

Force. Sugar and Cream.

Poached Eggs on Toast.

Postum.

Lunch.

Omelet. Coffee.

Bread and Butter. Rhubarb.

Prunes. Hermits.

Supper.

Creamed Corn.

Bread and Butter. Plum Butter.

Omelet. Watermelon Preserves.

April 25th.

Breakfast.

Graham Mush. Sugar and Cream

Toast. Postum.

Lunch.

Fried Eggs. Creamed Corn.

Pickles. Bread and Butter.

Apple Sauce. Cake.

Supper.

Creamed Potatoes. Bread and Butter.

Cold Boiled Beef. Preserves.

Crackers. Tea.

April 26th.

Breakfast.

Cereal. Sugar and Cream.

Toast. Postum.

Lunch.

Corn. Fried Eggs. Pickles.

Bread and Butter. Plum Butter.

Cake. Rhubarb.

Supper.

Steak. Mashed Potatoes. Gravy.

Rhubarb. Cake.

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April 27th.

Breakfast.

Bananas with Cereal.

Poached Eggs on Toast. Postum.

Potato Cakes. Gravy.

Dinner.

Beef Roast. Creamed Corn.

Mashed Potatoes. Gravy.

Bread and Butter. Plum Butter.

Orange Bavaria. Cake.

Supper.

Bread and Butter. Apple Butter.

Crackers. Milk.

Cake.

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April 28th.

Breakfast.

Cream of Wheat. Sugar and Cream.

Toast and Butter. Postum.

Lunch.

Potato Cakes. Creamed Corn.

Gravy. Fried Eggs.

Cake. Pieplant.

Supper.

Omelet. Bread and Butter.

Cake. Cocoa.

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April 29th.

Breakfast.

Oatmeal. Sugar and Cream.

Eggs. Toast. Milk.

Postum.

Lunch.

Fried Eggs. Bread and Butter.

Crackers. Milk.

Bananas. Sugar and Cream.

Cake.

Supper.

Creamed Potatoes. Steak.

Apple Butter. Bread and Butter.

Milk.

Prunes. Vanilla Wafers.

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April 30th.

Breakfast.

Graham Mush. Sugar and Cream.

Toast. Postum.

Lunch.

Fried Eggs. Bread and Butter.

Cabbage Salad.

Bananas and Cream. Cake.

Supper.

Boiled Cabbage. Steak.

Creamed Potatoes.

Prunes. Cookies.

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May 1st.

Breakfast.

Cereal. Sugar and Cream.

Eggs on Toast. Postum.

Lunch.

Poached Eggs. Bread and Butter.

Lettuce Salad. Crackers.

Golden Orange Cake. Coffee.

Supper.

Macaroni and Cheese.

Crackers. Milk.

Bread and Butter. Apple Butter.

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May 2nd.

Breakfast.

Cream of Wheat. Sugar and Cream.

Poached Eggs. Toast.

Postum.

Lunch.

Rice. Bread and Butter.

Fried Eggs. Crackers.

Rhubarb. Cake. Tea.

Supper.

Sliced Beef. Cottage Cheese Salad.

Bread and Butter. Apple Butter.

Cake. Rhubarb.

Cocoa.

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May 3rd.

Breakfast.

Force. Sugar and Cream.

Creamed Toast. Postum.

Lunch.

Creamed Beef. Potatoes.

Plums. Cinnamon Rolls.

Supper.

Potato Soup. Bread Omelet.

Bread and Butter. Apple Butter.

Milk.

May 4th.

Breakfast.

Creamed Toast. Postum.

Post Toasties. Sugar and Cream.

Dinner.

Fish. Mashed Potatoes. Gravy.

Egg Salad. Cinnamon Rolls.

Fruit Cake. Plums.

Supper.

Bread and Butter. Plum Butter.

Chocolate. Cinnamon Rolls.

Strawberries. Sugar and Cream.

Cake.

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May 5th.

Breakfast.

Cream of Wheat. Sugar and Cream.

Toast. Postum.

Lunch.

Bread Omelet. Mashed Potatoes.

Bread and Butter. Plum Butter.

Cinnamon Rolls. Coffee.

Supper.

Creamed Dried Beef. Potato Cakes.

Strawberries. Sugar and Cream.

Fruit Cake.

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May 6th.

Breakfast.

Cereal. Sugar and Cream.

Postum. Toast. Butter.

Lunch.

Eggs. Dried Beef.

Bread and Butter. Plum Butter.

Bananas. Fruit Cake.

Milk.

Supper.

Beans. Prunes. Bread and Butter.

Cinnamon Rolls. Rhubarb.

Cocoa.

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May 7th.

Breakfast.

Bananas and Post Toasties.

Egg on Toast. Postum.

Lunch.

Beans. Fried Eggs.

Rhubarb. Bread and Butter.

Prunes. Cookies.

Supper.

Steak. Bread and Butter.

Radishes. Crackers. Prunes.

Rhubarb. Cinnamon Rolls.

Milk.

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May 8th.

Breakfast.

Graham Mush. Cream and Sugar.
Toast. Postum.

Lunch.

Eggs. Bread and Butter.
Coffee. Watermelon Preserves.

Supper.

Bread Omelet. Crackers. Cheese.
Preserves. Cookies. Cocoa.

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May 9th.

Breakfast.

Post Toasties. Cream and Sugar.
Toast. Postum.

Dinner.

Beans. Brown Bread.
White Bread. Butter. Radishes.
Rhubarb. Cinnamon Rolls.
Coffee.

Supper.

Steak. Potatoes.
Bread and Butter. Radishes and Onions.
Tea. Cinnamon Rolls.

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May 10th.

Breakfast.

Cereal. Cream and Sugar.

Eggs on Toast. Coffee.

Lunch.

Fried Eggs. Potatoes.

Bread and Butter. Lettuce.

Cake. Rhubarb. Milk.

Supper.

Creamed Corn. Post Toasties.

Bread and Butter. Cocoa.

Cookies. Rhubarb.

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May 11th.

Breakfast.

Cream of Wheat. Sugar and Cream.

Toast. Postum.

Dinner.

Fried Fish. Mashed Potatoes.

Creamed Corn. Bread and Butter.

Cabbage Salad.

Strawberries. Cake.

Supper.

Potato Salad. Radishes and Onions.

Tomato Preserves. Bread and Butter.

Strawberries. Sugar and Cream.

Cake.

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May 12th.

Breakfast.

Cereal. Sugar and Cream.

Creamed Toast. Postum.

Dinner.

Creamed Cabbage. Fried Eggs.

Hot Biscuit. Butter. Coffee.

Strawberries. Cinnamon Rolls.

Supper.

Beef Steak. Creamed Potatoes.

Bread and Butter. Preserves.

Cake.

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May 13th.

Breakfast.

Oatmeal. Cream and Sugar.

Postum. Toast.

Lunch.

Bread and Butter. Pickles.

Cinnamon Rolls. Milk.

Cake.

Supper.

Beans. Eggs. Cottage Cheese.

Bread and Butter. Lettuce. Radishes.

Plums. Cake.

May 14th.

Breakfast.

Cream of Wheat. Sugar and Cream.

Poached Eggs. Buttered Toast.

Postum.

Lunch.

Potato Cakes. Cottage Cheese.

Beans. Lettuce. Bread and Butter.

Spiced Cake.

Supper.

Brown Bread. Potatoes.

Fried Eggs. Radishes. Onions.

Apple Sauce. Cake.

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May 15th.

Breakfast.

Bananas.

Post Toasties. Sugar and Cream.

Postum. Toast.

Lunch.

Boiled Beef. Fried Eggs.

Cucumbers. Radishes.

Bread and Butter.

Bananas. Sugar and Cream.

Cake. Coffee.

Supper.

Cold Boiled Beef. Potatoes. Gravy.

Radishes. Bread and Butter. Plumb Butter.

Cake. Rhubarb.

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After the waste is subtracted, the following are the totals:
Proteid, 2044.7305; Fat, 5427.8482; Carbohydrates, 16,027.7329.
Therefore the Nutritive Ratio = $\frac{(5427.8482 \times 2\frac{1}{4}) + 16027.7329}{2044.7305}$ or 7.8

This ratio is near enough to the standard ratio, 1:6 - to be considered a good diet.

The total calorie value was 344,700.2425 making that for each person per day 2872.502.

The total cost of the food consumed by the family during the month was \$24.856 making the cost per person \$6.214.

Reference: - Bulletin No. 28. The Chemical Composition of American Food Materials.