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WAR RELOCATION AUTHORITY

CENTRAL UTAH PROJECT

TOPAZ, UTAH

THE 1943 FARM PROGRAM

by
George Sugihara

July 9, 1943

THE HISTORICAL SECTION
PROJECT REPORTS DIVISION

Chief, R.A. Bankson

INTRODUCTION

"Our tentative plan is that we hope to produce several hundred acres of spinach, potato, table beets, tomato, cantaloupe, cucumber, dry and green onion, squash, parsnip, turnip, sweet corn, swiss chard, and radish.

We are figuring on maximum acreage and minimum production because of the poor conditions. We hope to also have about 15,000 laying hens and 15,000 broilers to supply poultry meat and eggs and about 3000 turkeys. In regards to the hog raising enterprise, we hope to have over 300 brood sows and a few pedigree boars for breeding purposes, and with two farrowing per year for home consumption, and as a source of beef supply, we hope to raise about 200 beef cattle.

We are also planning to have 100 or more bee colonies on a rental basis since we have about 2000 acres of alfalfa around this project. In order to assist in the country's war effort, we hope to devote a considerable acreage to production of war crops such as pyrethrum and sun-flower. The extracts from pyrethrum are used in insecticides which are especially valuable for the armed forces, to make fine soaps, cooking oil, and for mixing paint; also it is good livestock and poultry feed.

The aims of the agriculture division of the WRA is to make this center as self-sufficient as possible by producing sufficient quantity of food stuff for the community the best we can, and to give you employment and to help contribute food in the Food For Freedom Program set by the Secretary of the Agriculture." -- Chief, Agricultural Division

Roscoe E. Bell 1942

The following merely touches the outline series of activities, problems, and accomplishments of the four agricultural units. Some of the details may not be included which are pertinent, but the general lay-out for the remainder of the year can be pictured by this report.

GENERAL FUNCTIONS OF THE PERSONNEL

Mass meeting among the farm workers were discouraged in favor of separate farm enterprise meetings. It was decided that each farm group form an association where they may elect a chairman, a vice-chairman, a secretary, and two representatives. It was believed that this plan would allow the separate group of farmers with the same interest to get together to discuss the various problems confronting them. The plan included: that two representatives of each enterprise meet with the director of the division so that an overall picture of the farm program could be presented for discussion.

The agricultural instructors of the Topaz High School sponsored weekly classes in vocational agriculture. Evening classes were conducted for poultry and livestock interests. Lectures covering various phases of the farm program were presented to the group on numerous occasions by Dr. Harry Smith of the Utah Agriculture College at Logan, Utah and by the county agent of Millard County, and by members of the high school faculty at Fillmore, Utah.

Interested farmers were taken by trucks to neighboring farms in order to be familiar with the characteristics of Millard County farming.

Veterinary work is performed by one partime worker, Rev. Kawamori, a former student of veterinary medicine at the University of California.

FOOD CROPS

ORDER OF ADAPTABILITY

Central Utah Project

	<u>Normal Crop prospects</u>	<u>1943 Crop Prospects</u>
Beets	Excellent	Fair
Chard	Excellent	Fair
Carrots -- planted very early	Excellent	Poor
Onions --- dry and green	Good	Good
Cucumbers	Good	Fair
Leaf Lettuce (all types)	Good	Poor
Radishes (all types)	Good	Fair
Celery	Good	Fair
Squash -- Early varieties	Good	Fair
Cabbage	Good	Fair
Turnips -- Fall	Fair	Fair
Mustard -- Fall	Fair	Fair
Pumpkins -- Early planting	Fair	Poor
Spinach -- very early and late fall	Fair	Fair
Potatoes -- early planting	Fair	Poor
S. Corn -- Early varieties	Fair	Fair
Peas -- Early Planting	Fair	Poor
Beans, Green and Mung	Fair	Fair
Broccoli	Fair	Fair
Tomatoes -- Early Varieties	Fair	Good -15 A.
		Poor -30 A.
Cantaloupes	Poor	Poor
Pepper	Poor	Poor
Beans -- Dry	Poor	None
Chinese Cabbage	Poor	Poor
Egg Plant	Poor	Poor
Watermelon	Poor	None
Cauliflower	Poor	Poor

Excellent--High yields, good quality, little difficulty in production.

Good--Moderate to high yields, acceptable quality, no serious difficulty in production.

Fair--Low to moderate yields, acceptable quality, may be difficult to produce or subject to serious hazards.

Poor--Low yields, may be inferior quality, or subject to serious hazards of production.

1943 Prospects--were influenced by late season, untimely planting, improper land preparations, and lack of adequate irrigation facilities.

FOOD CROPS

PLANTED AS OF July 1, 1943

	<u>NO. PLANTS</u>	<u>ACREAGE</u>	<u>CONDITION</u>
Onions	2,000,000	43	Good
Celery	428,000	35	Fair
Cauliflower	55,700	6	Fair
Broccoli	210,000	20	Fair
Cabbage	288,000	40	Fair
Tomatoes	60,000 85,000	15 20	Fair Poor (10% stand)
Peas	-----	8	Poor
Cantaloupes		30	Planted 6/25 - 28
Soybeans, edible		10	Coming up
Cucumbers		15	Planting
Sweet Corn		30	Planting

THE VALUE OF FOOD PRODUCTS
FOR THE 1944 FISCAL YEAR *

<u>PRODUCT</u>	<u>AMOUNT</u>	<u>VAL. PER UNIT</u>	<u>TOTAL VALUE</u>
Vegetables	4,985,000 lb.	5¢	\$249,250
Pork	375,000 bb.	25¢	93,750
Poultry meat	75,000 lb.	30¢	22,500
Eggs	84,375 doz.	40¢	34,500
Beef	168,750 lb.	30¢	<u>50,525</u>
Total --			\$450,525

*as designated by the Washington WRA office

FOOD CROPS
ORDER OF ADAPTABILITY

THE LIMITING FACTORS AND THE TYPE OF SOIL PREFERABLE
TO THE RESPECTIVE CROPS

<u>CROP</u>	<u>TYPE OF SOIL</u>	<u>NORMAL CROP PROSPECTS</u>	<u>LIMITING FACTORS</u>	<u>1943 CROP PROSPECTS</u>
beets	heavy or light	excellent		fair
chard	" "	"		fair
carrots-planted early	" "	"		poor
onions-dry and green	" "	good	alkali-heat	good
cucumbers	" "	"	season	fair
leaf lettuce(all type)	" "	"	heat	poor
radishes(all types)	" "	"	"	fair
celery	" "	"	"	fair
squash-early variety	" "	"	" and insects	fair
cabbage	" "	"	heat	fair
turnips -fall	" "	fair	" and season	fair
mustard -fall	" "	"	" " "	fair
pumpkins-early	" "	"	" " "	poor
spinach-early and late fall	" "	"	" " "	fair
potatoes -early	light	"	" and alkali	poor
S. corn -early variety	" "	"	season	poor
peas-early planting	" "	"	heat	poor
beans, green & mung	" "	"	alkali	fair
broccoli	" "	"	heat	fair
tomatoes-early variety	" "	"	season	good 15 A poor 30 A
cantaloupe	" "	poor	season	poor
peppers	" "	"	"	poor
beans -dry	low alkali	poor	" and alkali	none
Chinese Cabbage	" "	"	"	poor
egg plant	" "	"	"	poor
watermelon	" "	"	"	none
cauliflower	" "	"	heat and season	poor

IN CONFERENCE WITH MR. CASE LAST WEEK THE AGRICULTURAL SECTION STAFF
RECOMMENDED THE FOLLOWING CHANGES IN OUR CROP ACREAGES TO BE GROWN
IN 1943:

<u>CROP</u>	<u>ORIGINAL ACRES</u>	<u>REVISED ACRES</u>
asparagus.....	0	4
beans, green.....	22	22
beans, lima.....	20	10
beans, soy.....	13	35
beets, table.....	15	30
broccoli.....	30	25
cabbage.....	55	40
cabbage, Chinese.....	30	10
carrots.....	23	30
cauliflower.....	10	2
celery.....	20	35
chard, Swiss.....	15	26
corn, S.....	30	30
Cress, water.....	10	0
cucumber, pickling.....	8	14
cucumber, table.....	14	0
dandelion.....	1	0
eggplant.....	6	2
gobo -burdock.....	10	$\frac{1}{2}$
ground cherry.....	2	0
lettuce (leaf, romaine, endive).....	20	20
lettuce, head.....	10	2
musk melon.....	32	30
mustard green (tender green).....	10	10
onion, green.....	30	10
onion, dry.....	20	30
parsley.....	1	0
parsnips.....	7 6	0
peas, green///.....	30	10
peas, sugar.....	5	5
pepper, bell & chili.....	5 $\frac{1}{2}$	8
potatoes, Irish.....	60	45
potatoes, sweet.....	10	0
pumpkin.....	20	7
radish.....	15	15
radish (Japanese daikon).....	30	30
Rutaba-ga.....	8	0
Spinach.....	50	20
squash, summer.....	10	15
squash, winter.....	20	5
tomatoes.....	40	40
turnips.....	10	20
watermelon.....	25	10
alfalfa.....	2,000	2,000
barley.....	600	525
corn.....	80	160

REPORT ON SLAUGHTERED HOGS

April 21, 1943

Original Cost of Hogs as in Table #1

\$477.40

Cost of Feed:		
Cracked Wheat	6960 lbs. @79.5¢ cwt.	\$55.23
Garbage	6624 lbs.	---
Alfalfa	470 lbs. @18.00 per ton	4.23
		59.46
Direct overhead 10%		5.95
		65.41
Slaughtering charge 1¢ per lb. of 5445 lbs.		54.45
Hauling charge to Fillmore		16.80
		136.66
Indirect overhead 10%		13.67
Total expense		150.38
Total cost of hogs		627.73
Cost per pound of live weight	11.5¢	

Table #1

Original Cost of hogs:

Date of purchase	No. of Head	Weight		Cost Cwt.	Total Cost
		Average	Total		
1/28/43	2	199 lbs.	398 lbs.	\$14.65	\$58.27
1/29/43	5	158 "	790	14.40	113.76
2/8/43	13	162 "	2106	14.50	305.37
	20				477.40

REPORT ON THE FATTENED HOGS SENT FOR SLAUGHTERING

<u>Total Initial</u> <u>Weight of 20</u>	<u>Average</u> <u>Weight</u>	<u>Total finished</u> <u>Weight of 11</u>	<u>Average</u> <u>Weight</u>	<u>Increase</u> <u>Per Head</u>	<u>No. of</u> <u>Days</u>	<u>Average</u> <u>Daily grain</u>
2620 lbs.	131 lbs.	3060 lbs.	278 lbs.	147 lbs.	69	2.13 lbs.

Although the figures cannot be very accurate because we did not slaughter all of the feeders we had, the average gains were 2.13 pounds per day.

The estimate of feed consumed by the above 11 slaughtered hogs based on December consumption of the feed at Section 3.

<u>Kind of Feed</u>	<u>Per Head per day</u>	<u>For 11 per day</u>	<u>No. of days</u>	<u>Total Feed Consumption</u>
Cracked Wheat	7 lbs.	77 lbs.	69	5313 lbs.
Alfalfa Hay	1.5 lbs.	16.5 lbs.	69	1138.5 lbs.
Hog Chow		(not fed to this lot)		
Garbage	36 lbs.	400 lbs.	69	27600 lbs.
Salt		(could not measure)		

Amount used per 100 lbs. gain at this project. Utah experiment Station.

Ground Wheat	361.4 lbs.	427.80 lbs.
Alfalfa Hay	77.4 lbs.	87.07 lbs.
Hog Chow	(not fed)	
Garbage	1945 lbs.	

Therefore 1945 lbs. of garbage replaced 66.4 lbs. of ground wheat and 9.54 lbs. of alfalfa hay. As we did not use any tankage or any other supplement, the garbage was good enough to replace the tankage requirement in the ration. There were some indication of wastage of hay and garbage.

(see page 2)

Marketed Hogs: Dressed meat 2291 # at 18¢ lb. \$412.38

Cost of Hogs:

Cost of Purchase	\$ 212.52	
Expenses (feed)		
Cracked wheat	\$69.22	
Alfalfa hay	9.10	
Garbage 150#		
Care of hogs(labor)	40.00	
	118.32	
Overhead 10%	11.83	130.15
		342.67
Slaughtering fee		30.60
		373.27

Excess in Enterprise.....\$39.11

(available to help reduce cost of project
to government)

*Cracked Wheat figured on the basis of:

4554# at \$1.52 per c.w.t., Market price

TRUCK CROPS

The chief problem of the truck crops is the temperature which fluctuates widely from the morning to night--this is caused by the excessive radiation on the desert. The extreme heat which occurs during the day exposure damages such hardy crops ~~such~~ as lettuce, radishes, Chinese Cabbage, broccoli, cauliflower, and peas. The season of possible damage from the heat occurs from the middle of June to the end of August. However, the factor of intense heat does not mean that the crop will not grow, rather they will be greatly affected.

The tender crops such as tomatoes, corn, pepper, beans, cantaloupe will stand high temperature without damage, but growth is hampered by low night temperature, except during the middle of June to September 1st.

The high winds are another cause of damage, particularly to the quality of the crops. The general opinion is that alkali is the most serious factor of adaptation of soil to the crop. The land which has been selected for the truck crops is not excessively high in alkali, but this constitutes a serious problem.

The heavy texture of the soil here and the low organic matter content is the most serious problem; because of these factors the soil tends to run together and bake after each irrigation; therefore, cultivation and weeding is very difficult.

One of the greatest difficulty is the poor irrigation system due to the uneven topography of the land. Before the crop can be planted it was necessary to revise the irrigation system. It was necessary to level and float the land, and new head gates and field ditches had to be constructed.

Due to the delay in receiving supplies and equipment, it was impossible to complete work before planting season. As a result of the delay all planting was delayed from two weeks to six weeks beyond the proper planting time. Timeliness of planting and the seeding operations ^{are} ~~is~~ important in this area. In most crops its critical planting period for maximum production is about 10 days depending upon the seasonal conditions. The poor crop prospects of 1943 can be charged to the delay in the planting and to the type of planting stock used. The plants used this year; cabbage, tomatoe, broccoli, cauliflower, onion, celery, egg plant, and pepper were grown under commercial concerns by government contracts. Because of wartime conditions no special effort was made to produce high quality plants. Plants produced on the project proved far superior to any secured on contract.

Due to the short growing season for tender crops and the short season of favorable temperature for hardy crops, it is highly desirable to use only the finest quality planting stock which is possible to produce.

The planting season for hardy plants is from the middle of April to the first of May, and for the tender plants it is from the first of June to the 15th of that month. The harvest season for the hardy crops ^{is} ~~are~~ from the middle of July to the first of August, and for the tender crops the harvest time August to the middle of September.

The experience of this year has demonstrated that plants of this type can be secured only by producing them on this project.

Insect and disease problems are closely associated with the unfavorable climatic conditions. An example of this: peas planted very early are rarely damaged by insects, whereas the late peas

are subject to serious insect damage during the entire period of growth.

The success of the food program should not be jeopardized by insects or disease where control methods are practicable because insecticides and fungicides are on hand, and equipment is available for their application. An adequate stock of fertilizer is also available. There are 200,000 tons of manure on the project. The old manure (when the labor is available) is to be used as mulch while the new supply of manure is to be used for fertilizing purposes. However, the soil is quite fertile, and the expected successful use of fertilizer will be limited to crops that are not seriously limited in their growth by other ecological factors. Example: No results can be expected from the use of fertilizer on crops which are being produced under unfavorable temperature conditions or where alkali in the soil or in the water is ~~the~~ limiting plant growth. Under the present circumstances the use of fertilizer on truck crops may be regarded as experimental.

One considerable delay resulted from the failure to secure the necessary tools and equipment well in advance of seasonal needs. The original idea was to produce these food crops with tractor equipment and with the minimum of hand labor. The poor physical condition of the soil has required that the truck crop production resort to hand labor on a large scale. As a result, several fields have become very weedy while the necessary tools and equipment were being secured. Many of these management difficulties may be charged to inexperience, to the area itself, and to the over-optimism as to what could be accomplished with the available labor supply.

There are many notable exceptions but in general the attitude of the camp toward farm problems, especially that of labor has been unfavorable. During the spring and early summer months the number of regular workers assigned to food production did not exceed thirty-five men. In order to have carried out the plan it would have been necessary to have approximately one-hundred twenty workers on the job during this period. The attitude of the volunteer labor has been entirely satisfactory. However, there were insufficient trained farmers available to direct their work. During the school term the students made an outstanding contribution in the food crop program. The work of the vocational agricultural students in directing this work is largely responsible for its success. An example of this instance: one class of 150 students transplanted 280,000 onion plants in five hours--an achievement which the adult voluntary labor group has not approached.

The general outlook for the 1944 season may be pretty largely attributed to the degree of experienced or willing workers. A large percentage of the delays and disappointments of the current season may be avoided during the next season.

One encouraging note is that all crops handled in accordance with recommendations and plans prepared by the agronomist or in accordance with well-recognized practices in the community has shown excellent results.

It can be safely assumed that this project can produce a large percentage of its own food supplies, but those who are charged with their task ~~xx~~ must work diligently or give more attention to details than ordinarily would be required to produce an equal amount

TRUCK CROPS

of food in almost any other location.

POULTRY

Through the initial months of 1942 no chicks were purchased. The only activity which occurred in the formation of the poultry farm was the manufacture of adobe bricks which were made in the project area. The first purchase of 600 chicks was made in March 20, 1943. Since then 500 day-old and 862 grown ^{ing} turkeys were purchased and received on June 21, 1943. Under the present plans 250 poulets are to be used for the laying stock.

In the two units of the poultry section (one is used for the chickens and one for the turkeys). There are forty-three workers; eight of ^{whom} perform foremen duties, and one is engaged in research work for the division. An additional ¹⁵ men are required.

At the present time there are three building near completion. Future plans call for the construction for twenty-eight more, of which twenty-four are to be made of adobe bricks and four are to be of wooden structures. A total of thirty-six houses are needed as a minimum requirement if poultry products are to be produced for resident consumption on a normal scale.

The only feed grown within the project area are the greens, clover and alfalfa. Mash, oats, barley, wheat, and medical supplies are purchases from outside sources. Of the 330 acres allotted to the poultry farm 130 acres of alfalfa, 80 acres of barley, two acres of sunflower, and two acres of ~~m~~ mangal beets are being cultivated.

The water supply is inadequate with only one well for this section. As the brood grow larger the need of water will increase accordingly, thus another well is required.

SWINE

Under the present facilities the labor situation is favorable. Among this group there are four experienced workers, and the remainder are or have been unacquainted with the nature of the work.

From the outset the chief problem of the swine section has been the lack of materials, namely, lumber and other building items that go into construction needs. But the most serious privation which confronts this section is the inadequacy of water. The daily requirement of water is a minimum of 25,000 gallons. At present there are two wells, but conditions permit the use of only one. In order to supplement the supply of water, trucks from the center are being used to carry water in barrels to the two units three times a day.

The week ending December 31, 1942 there were 107 heads in unit #1 and 68 heads in unit #2. The week ending July 8, 1943 there are approximately 1500 heads in mixed lots. Unit #2 is being used to isolate the sick hogs. To date there has been no serious diseases among the animals. However, in June 20XX fifty heads were lost as a result of enterities which entered the herd through one lot of hogs purchases. Spoiled garbage was also one of the serious causes of sickness and death(bloody diarrhea).

The chief supply of feed is produced within the project area. The only feed that is brought to the farm from the outside sources are tankage, alfalfa, salt, and cracked wheat. Garbage is utilized to the proper amount, but all of the refuse is not being consumed at present. Under cultivation at the present time there are 550 acres of barley, 200 acres of corn, 150 acres of alfalfa, and various acres of squash, pumpkin, mangal beets, and soybeans in the project fields..all of which are to used solely for

SWINE 2

feed.

At present seventy-five heads are slaughtered monthly at the Kelly Packing Co. at Fillmore, Utah. Fifteen to twenty (average) heads are trucked to Fillmore every week. Under these figures there is only enough pork for weekly consumption. In the near future 250 heads are to be slaughtered monthly so that bacon and ham can be supplied to the mess halls three times weekly, and there is a possibility that Topaz may supply other centers with pork.

CATTLE

Among the agriculture sections the cattle division has had the least operational difficulties and the least maintenance costs. The beef cattle requires no housing of any sort; the only notable expense entailed in the control of the herd is that of fencing.

There are ten workers who perform such tasks as branding, de-horning, fencing, the area, and irrigating the cattle grazing areas. All of these workers started as inexperienced hands with the exception of Rev. Kawamorita, the veterinarian for the swine and cattle divisions. The labor situation has been favorable ever since the launching of the program in 1942. The workers are on constant shifts so as to assure the safety of the stock.

At the beginning of 1943 there were 197 heads of cattle. Subsequently twenty-eight heads have been butchered at Fillmore, Utah for a total produce of 14,000 lbs. The present beef slaughter rate is to be 800 heads or 300,000 lbs. yearly (approximately 6,000 lbs. weekly). The necessary purchases on an annual basis is 800 heads, since no breeding is to be done on this project.

CATTLE 2

The cattle ranch can accommodate 800 to 1600 heads under the present facilities, and if such plans materialize Topaz may have a surplus of beef which could be shipped to other centers. The Hereford stock is the one and only type of breed raised here.

Grazing grounds total 2,000 acres of alfalfa which constitutes the project's only grazing area for there are no federal provisions to allow for additional grazing space; of this 2,000 acres 600 acres are of a stubble nature. The feed is supplied entirely from project sources; outside purchases are not necessary since the hay, grass, and surplus feed is utilized.

The water supply has been sufficient for there are seven artesian wells that meet the maximum requirement for the cattle and irrigation purposes.

The cattle section has been authorized to purchase 300 additional heads in the next two months (August-September) so that the excess hay and feed can be consumed.