#73120

The Sugarbeet Grower

Grower Project and Record

Each club member is required to keep a business-like record of the projects carried out each year. It is **good business** to keep **complete** and **accurate** records. The purpose of this record book is to let you know how you stand in dollars and cents after completing the year's work. It is an important part of your club project. Be sure to take good care of it and keep it up-to-date. It will help others know what you have done in your club work and how well you have succeeded.

Keep your record book current. As soon as an activity is completed, such as selecting land, fertilizer, or other materials, enter it in the proper space in your record book. When you finish any project-related work, make an entry in your book. This is the best way to keep an accurate record of your activities. Your record will be not be useful unless it is accurate.

Be sure to read the instructions on each page. Make sure you understand them, and know how to make proper entries in the book. Your parents or your local leader can help you get started.

When your record book is complete, turn it over to your local 4-H leader. He or she will check it for accuracy, sign it, and forward it to your county extension educator.

Save all pictures and newspaper clippings relating to your project. If your record is selected to represent the county in some project or other club activity, you will have all of the material needed to show what you have done. Ask your local leader or county extension educator to explain the awards.

Year 20____

Name _____ Age _____Birthdate ____ /____/____

Mailing address _____ Month /Day/Year

School grade complete_____ Years in 4-H/FFA _____ Years in 4-H/FFA Sugarbeet Project_____

4-H Club/chapter _____

Office(s) held _____

Committee(s) served on _____

Member's signature _____

Parent's/Guardian's signature _____

Leader's signature _____

Sugarbeet Growers Project Record Book

OBJECTIVES

1. To stimulate interest in growing sugarbeets
2. To learn effective crop management for sugarbeet production including
   - fertilization
   - irrigation
   - weed control
   - insect control
   - disease control
   - harvesting
   - marketing

   and to learn how each affects crop quality
3. To keep appropriate records
4. To learn about the sugarbeet industry and its opportunities
5. To gain self-confidence and learn responsibility through experience and successful completion of the project

REQUIREMENTS

You will:

1. Grow a minimum of one acre of sugarbeets as measured by the club leader, instructor, or a field peson. Individual contracts with the sugar company are required. (A contract may include more than one member.)
2. Be a current 4-H/FFA member.
3. Own your own project with a bonafide agreement or contract with your parent or landlord covering machinery, labor, seed, share, etc. This must be signed by your parent, your leader, and a sugar company field representative.
4. Attend the annual field tour of sugarbeet projects during the month of July. An updated record book must be available for review during the field tour. Parents are encouraged to participate in the tour.
5. Exhibit your completed record book at the county fair. Exhibit your sugarbeets at the county fair or an approved alternative.
6. Close, summarize, and turn in projects to your county extension agent on or before January 5.
7. *Individual project weight slips or market receipts **must** be included with the record book at project completion.* This means that project beets must be weighed at the dumps separately from other beets produced on the same farm. Individual contracts with the sugar company are required. (A contract may include more than one member.)

EXHIBITS

Display of sugarbeets according to the local county fair book. (Display 3 uniform beets at the county fair.)

OR

Display of sugarbeets at a public exhibit other than the county fair. Talk to your leader and/or county agent for approval.

AND

Display your completed FC-8, Sugarbeet Project Record Book at the fair.

Project prepared by Ivan C. Hopkins, Extension Educator/Crops, Minidoka County. A special thanks to Amalgamated Sugar Company, Mini-Cassia Beet Growers, and the Minidoka County Extension System for their help in developing this project.
Revised June 2002.

Field Plan

Show the location of your crop project in relation to the rest of the farm. Indicate the number of acres in your project on the map and give the legal description. If you irrigate, show how the irrigation system for your project is laid out (head ditches, field ditches, etc.).

N

Number of acres in this year's project _____

Number of acres in last year's project _____

Project Agreement

State the agreement you have made concerning land, equipment, machinery, seed, fertilizers, chemicals, labor, harvesting, etc. Please list any work that you will perform for others to offset the cost of raising your crop.

Signatures

Member _____

Parent _____

Leader _____

Project Production Section

1. List the crops grown over the last five years. When was the last time sugarbeets were grown on this site?

2. Describe the steps or methods you used in seedbed preparation. List the percentage of moisture in your soil, any clods present, etc.

3. Describe your fertilization program or schedule. Specify the fertilizer, rates applied, times of application, methods of application, whether you used a soil test or a tissue test, and why you chose this method of application.

4. State herbicide(s) used, the rates applied, and the number of applications. What weeds were you trying to control? Evaluate the effectiveness of the herbicide(s) used.

5. What variety of seed did you plant? Was it coated or raw? Describe your planting rate, the seed spacing, and your reasons for choosing this particular seed.

6. What was the plant population in your growing stand (number of plants per 100-foot row)? How did you establish this population (plant to stand, thinning, flex-tine harrowing, etc.)?

7. What mechanical methods (cultivation, etc.) did you use to control weeds? Describe the effectiveness of these methods.

8. Discuss any insect(s) in the crop. List insecticides applied, methods of application, rates, and results.

9. Did you have any disease problems in your stand (seedling, powdery mildew, dampoff, rhizomania, etc.)? What controls did you use? At what rates? How did you apply them? Describe their effectiveness.

10. Did any unusual weather conditions affect your crop? How was your crop affected?

11. What type(s) of soil erosion did you have on your plot (wind erosion, soil movement from irrigation, etc.)? How does the slope, soil type, and type of irrigation affect the erosion on your plot? What did you do to keep soil erosion to a minimum?

12. What is your fair time estimate (what the crop will yield at harvest time)? How did you reach this estimate?

13. Do you plan to continue this project next year? Explain why or why not.

14. What could you do to increase your yield or decrease your costs in another year? (Discuss new practices you would like to try.)

15. Explain your irrigation system (method, rate, number of sets, and who did the irrigating). How did you determine the irrigation schedule?

16. List any activities done for others and the dollar amount from this work that you contributed to your project.

Fair Time $ _____ Completion $ _____

17. Describe any demonstrations or illustrated presentations you gave on your project this year.

Budget

Use your best estimate what it will take to grow your crop.

Estimated income:	
1. Yield per acre (tons)	tons
2. Price per ton ($)	$
3. Gross income per acre ($) (1 x 2)	$

Estimated expenses:	
4. Land cost per acre $	$
5. Water and pump cost per acre $	$
6. Machinery and equipment cost per acre (Include all costs from ground preparation to harvest)	$
7. Fertilizer costs per acre	$
8. Seed costs per acre	$
9. Chemical costs per acre (includes herbicides, insecticides, fungicides, rodenticides)	$
10. Labor costs per acre *(not including your own labor)*	$
11. Dues	$
12. Other miscellaneous costs per acre	$
13. Interest	$
14. **Total of estimated expenses per acre** (Total of 4 through 13)	$
15. **Net income per acre** (3 minus 14)	$

Example Budget

Table 1. Costs and Returns Per Acre to Produce Sugarbeets

SCI **October 26, 2001**

	Quantity Per Acre	Unit	Price or Cost/Unit	Value or Cost/Acre	Your Cost
Gross Returns					
Sugarbeets	25.00	ton	37.00	925.00	
Total Gross Returns For Sugarbeets				925.00	
Operating Costs					
Custom:					
Custom Fertilize	1.00	acre	5.10	5.10	
Consultant	1.00	acre	14.50	14.50	
Hand Hoeing Beets	1.00	acre	25.00	25.00	
Fertilizer:					
Dry Nitrogen	50.00	lb	0.31	15.50	
Dry P205	80.00	lb	0.19	15.20	
K20	90.00	lb	0.15	13.50	
Sulfur	40.00	lb	0.13	5.20	
Liquid Nitrogen	20.00	lb	0.32	6.40	
Micronutrients	1.00	acre	6.00	6.00	
Seed:					
Beet Seed Pellet	0.50	unit	83.00	41.50	
Pesticide:					
Counter - CR	9.80	lb	2.65	25.97	
Progress	26.00	oz	0.94	24.44	
Upbeet	0.51	oz	48.70	24.84	
Meth. seed oil	1.50	qt	3.15	4.73	
Stinger	2.66	oz	3.81	10.13	
Irrigation:					
Irr. Repairs - cp	31.00	ac/in	0.57	17.67	
Irr. Power - cp	31.00	ac/in	0.99	30.69	
Labor (irrigation)	1.70	hr	7.80	13.26	
Water Assessment	1.00	acre	24.70	24.70	
Other:					
Crop Insurance	1.00	acre	35.00	35.00	
Hauling Charge	25.00	ton	0.70	17.50	
Labor (machine)	5.91	hrs	11.70	69.12	
Labor (non-machine)	2.60	hrs	6.90	17.94	
Fuel - Gas	4.02	gal	1.54	6.20	
Fuel - Diesel	23.40	gal	1.07	25.04	
Lube				4.69	
Machinery repair				31.15	
Interest on operating capital @ 7.50%				19.74	
Total Operating Costs/Acre				550.70	
Net Returns Above Operating Costs				374.30	
Cash Ownership Costs					
General Overhead				21.03	
Land Rent				200.00	
Co-op Stock				42.00	
Management Fee				46.25	
Property Taxes (Machinery)				0.00	
Property Insurance				2.28	
Total Cash Ownership Costs per Acre				311.56	
Non-Cash Ownership Costs (Depreciation and Interest)					
Equipment				89.71	
Total Non-Cash Ownership Costs per Acre				89.71	
Total Costs per Acre				951.97	
Returns to Risk and Management				188.92	

Journal Record For Total Project

Each time any work is done on your project, make a record of it below. Use one line for each kind of work. Use the going custom rate for operations you have done by others. For operations you do yourself, use 2/3 the custom rate for equipment use, and put your hours worked in the last column.

Total this page													

Date	Activity	Units/ Acres	Cost/ Unit	Total $ Expenses	Equipment	Chemical	Fertilizer	Interest/ Rent	Dues/ Misc.	Seed/ Harvest	Water/ Power	Hired Labor	Hours Self Labor
	Totals from page 13												
	Total this page												

Hours

Date	Activity	Units/ Acres	Cost/ Unit	Total $ Expenses	Equipment	Chemical	Fertilizer	Interest/ Rent	Dues/ Misc.	Seed/ Harvest	Water/ Power	Hired Labor	Self Labor
Totals from page 14													
Total this page													
GRAND TOTAL *(Project Completion)*													
If in balance these two should be the same figure.					**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**

Sum of Columns F Through M

Fair Time Totals										

Financial Summary

Dollars per ton = [Crop year payment Oct., Nov., Dec. payments x 1.5].

Fair-time estimate project completion receipts:

Tons per project		
Dollars per ton	$	$
Feed value (pasture sold)	$	$
Total receipts	$	$
Expenses:		
Land (rent or crop share)	$	$
Irrigation labor	$	$
Water/power	$	$
Seed	$	$
Equipment cost	$	$
Fertilizer	$	$
Chemicals and application	$	$
Hired labor	$	$
Interest	$	$
Dues	$	$
Total expenses	$	$
PROFIT or < LOSS > (Total receipts minus total expenses; this represents your income for labor, management, and money invested)	$	$
Average cost per ton (Divide total expenses by total yield)	$	$

Acres grown_____ Tons produced _____

% sugar _____ Nitrate_____ Conductivity_____

Total hours self labor _____ Return on investment_____

(Value of work for others + net income / total hours self labor = Return on investment)

Story of My Sugarbeet Project

Describe your project. What were your greatest accomplishments? Did you have any problems? Describe your experiences. How will this project be useful to you in the future? What else would you like to know about raising sugarbeets? What other topics would you like to study?

Pictures, articles, etc.

Optional

Preparing Sugarbeets For Exhibit

Selecting three uniform sugarbeets from your project is not easy. You will have a good exhibit if you know what you want, how to find it, and how to prepare it for an exhibit.

Your exhibit should be representative of your beet crop. Your best beets will be found where the soil is mellow and where there is a good stand. The extra large beets are found at row ends or other areas of the field where a single is isolated from others with no competition. These beets tend to be rougher, with a large multiple crown, and usually have several intertwined roots. Try to select beets that have the following characteristics:

A. **Uniform** – Beets should be of similar size and shape.

B. **Size** - Large beets are more desirable than smaller ones.

C. **Shape** - Beets that are long and thick, with the thickness extending the length of the beet, are more desirable than shorter beets or long beets that do not have much thickness in the lower half or three-quarters. Round beets are preferred to flat.

D. **Crown** - The crown should be short, small, free from hollow areas, and clean in order for topping to take away only a minimum weight and to keep the tare low.

E. **Roots** - A beet with a single heavy root is preferred to a multiple root or beet with several intertwined roots. The root should be free of insect damage.

A well-prepared sample of three beets makes a very attractive exhibit. After selecting the desirable beets, remove the dirt by soaking rather than brushing. Brushing and rough handling scratches the skin, which will turn the surface dark. Do not use chlorine bleach as it causes the skin to deteriorate and turn black. Cut the top off square at a point where it will form a two-inch diameter cut. Trim the remainder of the crown at a 30 degree angle from the bottom leaf scar to the square cut. The beet should be able to stand on the crown end with the long tap root standing upright.

Sugarbeet score card:	
SIZE	25 POINTS
UNIFORMITY	25 POINTS
TYPE	30 POINTS
CONFORMATION	10 POINTS
CROWNS	10 POINTS
TOTAL	100 POINTS

Amalgamated Sugar Company has special awards for the best sugarbeets and the largest sugarbeet.

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University of Idaho Extension

Project book revised 09/02