FARM BUSINESS ANALYSIS
FRED ZYLSTRA FARM

San Juan Island
Friday Harbor, Washington

Farm Business Analysis, Fred Zylstra Farm,
San Juan Island, Friday Harbor, Washington 1/

I. Purposes of Study

1. To make a reconnaissance study of the various land use possibilities of this farm and to estimate "net income" potential. "Net income is defined as gross income minus all farm expenses, including depreciation, but excluding interest on investment.

2. To suggest additional information that would be useful in making decisions regarding the operation of this farm if it is acquired by the 4-H Foundation.

II. Goals of Interested Persons

1. Mr. Zylstra indicated that he would like to see the farm used to help young people who appear to have potential problems in adjusting to society. Youth who have lost their parents, or are from broken homes are the type of youngster he has in mind. Mr. Zylstra would also like to see this farm used to help the usual boy or girl, such as those enrolled in 4-H clubs. It has been suggested to him that this might be done by using the farm as a training center for leaders who work with youth and their parents.

2. Goals of the 4-H Foundation as expressed by Joe Gould, member of the State 4-H Foundation and as recorded in minutes of the "Wooden Shoe Committee" on July 2, 1963, were stated as follows:

   (1) The 4-H Foundation is interested in the development of all kinds of boys and girls, not just those who are exceptional, retarded or delinquent.

   (2) To accomplish their (4-H Foundation) purpose, Wooden Shoe Farms of San Juan Island might be used for:

      (a) Training of volunteer leaders in 4-H.

      (b) Training of professional leaders from Washington State University.

      (c) Conferences for youth groups.

1/ Report prepared by Arthur W. Peterson. Valuable assistance from John Westergreen, Bill Baker, S.C.S. personnel and Fred Zylstra. I also made use of Doane's Agricultural Service Report and financial data furnished by Mr. Zylstra. Gary Poor, C. A. Svinth and Tom Quann have reviewed the report and made suggestions. The suggestions and conclusions, however, are my responsibility.

(d) Permanent headquarters for the 4-H Foundation.

(e) Conferences for leadership groups in agriculture and home economics.

(3) Have the farm pay its cash expenses, maintain capital, and provide income for other necessary buildings as required under (2).

III. Background Information

1. Discussions with local agricultural leaders.

Mr. John Westergreen provided me with the minutes of the meetings of the local committee. These minutes give additional background regarding the goals of Mr. Zylstra and the various alternatives that have been considered up to this point by him and the local committee. Mr. Westergreen made arrangements for Bill Baker, retired county agent of long experience in San Juan County, to spend Monday, August 5, helping me get background information about the farm and the local situation. We first visited the Soil Conservation Service office, located the farm on the soil map of San Juan County and reviewed with the local soil conservationist the land use capability classification of this farm. Mr. Baker was also acquainted with the economic land classification which had been made some twelve years ago. He said the area where this farm is located was classified as mostly Economic Land Class 3, with some 2 and 4. The map was not available in the county agent's office, but I inspected it upon my return to Pullman and found Mr. Baker's memory correct.

The economic land class map agrees in general with the land use capability map although it is more conservative. Most of the area which is classified as Land Use Capability 2 was classified (from an economic viewpoint) as Economic Land Class 3 because of drainage problems.

The distribution of the land by Land Use Capability classes is approximately as follows:

Land Use Capability 2 - 320 acres, of which 50 acres will be used for irrigation reservoirs.
Land Use Capability 3 - 100 acres
Land Use Capability 4 - 60 acres
Land Use Capability 6 - 100 acres (Woods)

Mr. Baker and I then visited Mr. Zylstra at his farm home. He was very cordial and cooperative. In addition to furnishing financial statements of the farm business, he made estimates of the additional capital invested since the last inventory was taken January 1, 1963. He also provided me with a copy of a report prepared for him by the Doane Agricultural Service. This analysis by Doanes was made

in 1961 and submitted to Mr. Zylstra May 14, 1962. It does not cover the land acquired in the last two purchases. Undoubtedly Mr. Zylstra would make this report available to the 4-H Foundation Board if they would like to see it.

Maps of Mr. Zylstra's farm showing land use capability, a soils map, a topography map, the present cropping plan, and a map showing the rabbit fence and irrigation are attached to this report as figures 1, 2, 3 and 4.

The dimensions of the more important buildings are taken from the Doane report. The man in charge of repairs provided the dimensions of the new barn.

Mr. Baker took me to points of interest around the farm so that I could see it visually. Among other things we visited the site of the new dam which will impound a small lake covering about 40 acres on the farm. This lake will have multiple purpose uses but at present is being constructed mainly for irrigation purposes.

One important problem on the farm can be observed at this time of year. The farm has a serious infestation of quack grass and canadian thistle. Both are perennial, noxious weeds. A careful inventory of the weed problem shown on an over-lay map of the farm, and a program of eradication or control, should be developed as soon as possible.

The buildings are in good repair and are practical for a livestock farm. Most of the machinery is used. The problem of adequate and timely repair of machinery may interfere with the efficiency of the farm. As soon as the direction this farm is to take has been determined, the amount of machinery should be reduced. It is inefficient to have machinery for several different small enterprises. For example, this farm has the necessary equipment for harvesting grain, bailing hay and making silage. It should be possible to eliminate one of these machines if they can be hired on a custom basis, or if the enterprise is eliminated.

That part of the farm with the poorest land, which is now largely in forest or permanent pasture, has not been fenced rabbit tight. (See map) It seems doubtful if this costly type of fencing is justified on this part of the farm, based upon the future potential productivity and use of this land.

Several very excellent sites for conference buildings and cabins are available along the north, west and southwest parts of the farm. These are located on the poorer land. It seems probable that the commercial farm operation should be limited to that part of the farm which lies to the east or near the main headquarters. This equals about 370 acres of cropland with 10 acres in holly.

Mr. Zylstra recognizes that the amount of hired help at present is excessive. A part of this hired help has been used in capital improvements and is not charged to the farm operation. One of the problems of this farm is, and will be, labor and machinery efficiency.

2. Investment in Farm.

Mr. Zylstra estimates that the investment in this farm as of about January 1, 1963, will be in the neighborhood of $400,000. This represents an increase of approximately $140,000 over last year's investment. This additional investment consists of the purchase of 80 acres of land, a new barn (the cost of materials being approximately $5,000 for this barn) and a new irrigation pond covering 40 acres.

The cattle inventory has been increased by approximately $18,600. This includes the purchase of one-half interest in a mature pure-bred bull and full ownership of a young, registered bull from Carnation Farms. The cost of these two bulls was $10,000. Most of the rest of the increase in the livestock inventory is represented by this year's calf crop, estimated by Mr. Zylstra and Mr. Westergreen to be about 68 head at the present time.

A few current liabilities and a mortgage to the Federal Loan Bank are shown in the financial statement. These liabilities total to a little over $30,000. These liabilities are maintained for various personal reasons by Mr. Zylstra. The Federal Land Bank mortgage represents borrowed money at a very low interest rate.

I am not attaching a copy of the detailed financial statement for this farm but I am sure that this could be obtained from Mr. Zylstra on a confidential basis.

3. Operating expenses and income.

Last year out of the total payroll of about $25,000 on the farm, $15,000 was charged to improvements, leaving the remaining $10,000 charged as farm expense. Other farm expenses, including depreciation, were about $17,000. The gross receipts amounted to less than $1,000 because all the potential farm income plus income of Mr. Zylstra from other sources were plowed back into the farm. The most important part of the expense for consideration by the Foundation will be the fixed expenses.

4. Fixed Expenses.

The fixed expenses which follow are based upon the operation of about 500 acres of land. There will be additional real estate tax for the 80 acres purchased this year. I would estimate real estate taxes to be approximately two dollars per acre. This would add an additional $160. In 1962 the fixed expenses were: real estate taxes, $924; electricity and telephone, $931*; depreciation expense, $9,750; insurance expense, $1,100; office supply expense, $425.

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*Mr. Zylstra has agreed to pay a $70 monthly electricity bill on farm Number 1 for the next five years. This will amount to $840 annually. This will pay for all the electricity used on Farm Number 1 which includes the electric pumping unit. The electric pump will be operated by a 40 horsepower motor. I would estimate that electricity and telephone for the commercial farm operation would be $1,100.

Attached to this report is the depreciation schedule of 1962. This does not include the depreciation chargeable to the following: the new barn, previously estimated at $5,000 for materials alone; the value of the new dam; and the value of the livestock purchased this year. Attached to this report also is the insurance schedule for 1962.

As stated previously, it is important in making an economic evaluation of this farm to estimate the fixed expenses. The cash or variable expenses will change depending upon the enterprises chosen and the situation each year, but most fixed expenses cannot be avoided. They also change very little with changes in kind or combination of enterprise.

Attached to this report is a building summary from the Doane report (Table 1). The figures on the new barn are added to this report. The hay storage capacity is in the center of the barn with cement feeding platform on 2 sides. Additional grain storage is available this year.

An inventory of farm machinery from the Doane report and the depreciation schedule from income tax form 1040 are included. (Tables 2 and 3).

It is necessary to make allowance for the extra cost of freight and hauling by ferry. Based upon figures quoted to the county agent, the truck charge appears to be a little over $1.50 per ton. The operating statement for 1962 shows $1,126 for this item.

Two items on the operating statement which give some concern are the charges for equipment rental of about $1,650 and equipment repairs of about $1,500. This $3,100, together with the depreciation on equipment for 1962 totals approximately $6,000. If there were about 320 tillable acres on the farm at that time, the average cost of depreciation, equipment rental and repair would be almost $20 per acre. Additional irrigation equipment has been added this year so that the total cost has been increased. The cost per acre, however, may not be as high because of the increased tillable acres.

5. Livestock Inventory.

The livestock inventory includes 20 purebred polled hereford females from the Carnation Farm costing about $1,000 each. There were 45 other cows valued at $13,275, 10 heifers at $2,000 and 1 bull at $2,000. During this last year, as previously mentioned, Mr. Zylstra purchased one-half interest in a Carnation bull costing $7,500, one young herd sire at $2,500. There are also 68 young calves, two dairy cows and one dairy heifer on the farm.

With practically no sales of livestock, the livestock inventory has increased rapidly. In spite of this, the management of pastures, hayfields and grainfields has been such that the

inventories of hay and grain have increased. Mr. Zylstra has repaired another granary for storage of home-grown grain. There is also a trench silo which has been filled. There appears to be an ample supply of both hay and grain for wintering the herd next winter. The livestock are in good condition.

(Comment: From the standpoint of Mr. Zylstra, there probably has been a tax advantage in building up the inventories and operating at a loss. A time will come within a couple of years, however, when the rapidly expanding livestock inventory must result in sales. If the farm were owned by a non-taxable corporation at that time, it would save on taxes.

Mr. Zylstra said that the livestock would be available for purposes of bringing in cash income that could then be applied to further the goals of the 4-H Foundation, or any other organization operating the farm at that time. This is a helpful attitude on his part.)

IV. Problems

1. Under present conditions, the management and labor costs are high relative to both present gross and net income. These costs are also high in relation to potential income. As indicated in the operating statement, however, about three-fifths of the labor bill has been charged to capital improvement. In addition to high labor costs, it has been shown that the machinery operating expenses seem high. One problem that Mr. Zylstra or any owner faces, who wants to make a net profit from this farm, is the need to reduce the labor and machinery expense, or to increase the gross income while not increasing these expenses, at least not proportionately.

2. The present intensity of crop use is low in relation to investment. This probably is not true of the holly enterprise, but it is true of the land use on the rest of the farm. Although the pasture, roughage and grain production has been adequate to meet the needs of a relatively small livestock enterprise, the intensity of use and production per acre will need to be much higher in the near future if this farm is to return a profit.

3. There are serious limitations in market outlets for more intensive crops and even for livestock on San Juan Island. The most limiting factor that any future owner and manager of this farm must solve is good market outlets for more intensive crops and livestock operations.

4. The "other goals" of the 4-H Foundation, and of Mr. Zylstra, are not entirely compatible with efficient management of the farm. It will be difficult to operate the farm at a profit with teen-age boys as the main source of labor. The majority of labor on most farms is family labor. A father can supervise one or two sons. There is often additional motivation for family labor because it

is "their farm and their home." Oftentimes they realize, even as teen-agers, that they have a future stake in the business. This is not true of non-family labor. Although delinquent or pre-delinquent children may be helped by living on farms, experience indicates that they usually do not provide efficient farm labor.

There statements are made, not to indicate that the "other goals" are not desirable, but merely to suggest that there is a problem of incompatibility between the goal of a successful and profitable farm business and the employment or rehabilitation of youths.

5. This farm, as indicated previously, has a serious perennial, noxious weed problem. Although these weeds can be controlled, the present management of the farm is not making progress in this direction. It will be a continuous battle because of the surrounding farms with the same weed infestations.

V. Discussion of Alternative Solutions to the Problems Enumerated.

1. I would suggest that the direct day to day management be placed in the hands of a manager and worker whose income will be related to the relative economic success of the farm. As long as Mr. Zylstra is present and actively engaged in helping with "management decisions" that part of the operation may be adequately handled. Even so, Mr. Zylstra told me that he had difficulty motivating his hired management to keep and use records necessary for good management. Moreover Mr. Zylstra is not present on the farm during a part of the year. In addition, his main interests have been more in the long term capital improvement of the farms than in the profitable operation of a farm business.

The manager of this type of a farm should be capable in three general areas.

A. The details of livestock management, supported by the knowledge and skills of crop management.

B. The knowledge and the skills needed for the care and operation of machinery, including a sprinkler irrigation system.

C. The overall appreciation of the necessity for planning, and the relating of the keeping and using of records to a systematic business approach. Included in point C would be the study and understanding of marketing, or the hiring of some person or organization that does understand marketing.

The successful commercial livestock farmers of Washington meet the above requirements. They may not always be adequate in all phases within the one person of the manager, but they are recognized as essential by this person. A good manager supplements his skills and knowledge by hiring the skills and knowledge that he does not have.

Mr. Zylstra suggested the possibility of securing livestock management help from Carnation Farms. This might be a good suggestion but needs to be investigated carefully if this farm is to produce a profit. Some of the Carnation Farms are operated on the basis of advertising and public relations, and do not need to show a direct cash profit.

Less than three per cent of the farms in the United States are managed by hired managers. This is indicative of the difficulty associated with the hired management of a business which is closely related to biological processes. Successful farms may be large in terms of area and total capital but they tend to be small in number of hired workers. On the average, farms the size of Mr. Zylstra's with a commercial head or flock should not require over two or three full-time man equivalents with some seasonal labor. A purebred cattle business will require 50 to 100 per cent more labor than the same number of animal units carried on a commercial cattle farm.

The operation of the farm should be centralized in one family with at least half of the labor and management coming from the family concerned. Most successful livestock farm operations in the United States are operated on a fifty-fifty stock share lease, unless they are owner operated. If a stock-share lease is used, all the land and fixed capital investment, and one-half of the investment in livestock are usually furnished by the owner. The operator usually furnishes all the labor, the farm machinery and one-half of the investment in livestock. The cash expenses are also shared on a fifty-fifty basis. The receipts are then split on a fifty-fifty basis. I have not checked to see what happens when there is a sprinkler irrigated system on a livestock ranch, but I assume that this would be a part of the fixed capital. (There is evidence on Mr. Zylstra's farm that the irrigation equipment is suffering some damage through careless handling. A number of the pipes are bent and at least one had several holes in it.)

It will be difficult to find an operator with the amount of capital required to buy a half-interest in the livestock on this farm and to furnish all the farming equipment even though it seems to me to be the ideal situation. If this is not possible, then I suggest that some of the manager's income, that part that might be thought of as capital accumulation, should come from a pre-determined basis for figuring "net profit" from this farm. The manager would receive a salary sufficient to support an acceptable level of living but any appreciable earnings above this would depend upon the profitableness of the farm. These types of leases can be worked out. Art Cagle or Homer Fletcher could help in such an analysis.

Director C. A. Svinth suggested a possible labor and management force for this farm as an alternative to my "rental suggestion." I have modified it a little. It gives some idea as to how much

the labor and management cost might be on this farm. I would suggest that 10 per cent of the "net income" be made available for distribution as a bonus to labor and management. This should be distributed by the Board on the recommendation of Bill Baker or the farm manager.

Labor Force, Wooden Shoe Farms

1 Part-time professional manager (Bill Baker)	$1,200	
Approximately 300 hours at rate of about 6 hours per week		
Travel	350	
1 Farm Foreman with ½ man equivalent of family labor	3,600	
Furnish house, electricity, water, vegetable garden area, meat, eggs and milk.		($600 for summer time help of family labor)
Farm background		
Skill - Farm mechanics		
Interest - Youth Development		
Wife with ability and willingness to cook for boys		
1 Full-time, hired man	3,000	
(If married, house and privileges furnished,		
or if unmarried, room and board furnished)	1,000	(housing allowance)
1 Full-time teen-ager (boy)	1,200	
Meals and laundry (to Foreman's wife)	900	
Housing furnished		
2 Part-time teen-age boys	600	
(June, July, August)		
Meals and laundry (to Foreman's wife)	450	
Housing furnished		
Total	$12,300	

2. Methods of increasing the intensity of use.

A. The first thing to do is to study the possibilities of increasing the intensity of use of the present enterprises. It seems obvious that with the availability of additional water the cropping enterprise can be intensified. This will mean a change perhaps in crops and certainly an increase in the amount of fertilizer, weed control measures and the like. An improvement of the agronomic program will allow the addition of cattle or other livestock to this operation.

It is difficult to appraise the potential of a purebred livestock operation. If bulls and females are to be sold for breeding purposes, then there will be an increased

labor and building requirement per animal unit. Roughly I would estimate that one could expect these costs to double. A purebred livestock business is risky in the sense that it requires relatively large amounts of capital outlay which are not reimbursed until actual breeding stock is sold. I do not believe the figures quoted in the Doane report are realistic for an "average" selling price.

Mr. Zylstra suggests that the 4-H Foundation, together with the Carnation Farms, would have a good public relations factor in their favor when selling breeding stock. I concur in this observation but we will not know whether this is true until actual sales occur. It also means that someone will need to arrange with Carnation Farms as to the relationship of this herd to their breeding and sales programs. The safest thing to do is to see whether this farm will carry itself on a commercial livestock basis. Then a part of the livestock might be carried as a purebred enterprise. This would add to both the risk and the possibility of profit. It seems probable that it is a risk that the 4-H Foundation might want to explore, however.

The present cattle enterprise could be enlarged by not growing grain and adding to the number of animal units. Although grain can be produced on this farm, especially under irrigation, it is not a very intensive type of irrigated agriculture. In general it pays to increase the intensity by increasing the number of animal units per acre and purchasing the grain from a specialized grain producing area. (Professor Eldon Weeks of Agricultural Economics, however, told me that their farm on Lopez Island on similar soil produces very high grain yields, around 70 to 90 bushels of wheat per acre.

In many parts of the West Coast a further increase in intensity is occurring on livestock operations by producing only pasture on the home farm and buying the concentrates and winter roughage. One possibility on the Zylstra farm is to buy local hay from nearby farms and supplement this with purchased concentrates. It is my opinion that pelleted alfalfa and similar pelleted feeds are rapidly becoming a practical source of feed to livestock areas distant from alfalfa producing regions. The further a livestock area is away from the alfalfa producing region, the more practical it will be to buy pellets. This is verified by the fact that many tons of pellets are now being sold and shipped to Alaska, Japan, the Philippines, Hawaii, etc. Pellets might be brought to this island by barge rather than by ferry. It is obvious that the present enterprises on this farm can be intensified a great deal.) Later in this report I will try to see what it looks like when we make estimates of costs and returns for such a program.

B. Another good way to intensify is to add a supplemental cash crop. I looked briefly at the possibility of growing a processing crop of some kind. At present there is one

processing plant in Friday Harbor, but its financial situation is such that one does not know how long it will continue to be available. It is obvious that if no processing plant is available, processing crops cannot be considered. The management of this farm cannot control decisions about this problem by themselves, therefore, I will not take time to make an analysis of this possibility. Attached to this report, however, are strawberry enterprise sheets developed by Clark and Kitsap county growers. It shows how important it would be to shift to intensive crops if they could be marketed. (Tables 4 and 5).

A more practical supplemental cash crop seems to be a legume or grass seed crop. In discussing this briefly with Kenny Morrison, Extension Agronomist at Pullman, he suggested the possibility of growing timothy or orchard grass seed. (Al Law, Professor of Agronomy, agrees that this island has a good climate for grass seed production.) He also mentioned creeping fescue and bent grasses. He said that some clover seed is now being produced on San Juan Island. Two kinds were suggested, namely, New Zealand Red and Dutch White Clover. Mr. Morrison feels that a yield of 500 pounds would be a conservative estimate for the grass seeds and that under good management 800 to 1000 pounds per acre could be produced. It is his opinion that such an enterprise should be promoted on its own merits and not considered on the basis of the possibility of supplementing the livestock enterprise. In other words, you would grow the crop for its potential from seed rather than base it upon the possibility of livestock feed from the same field (the year you are producing seed). I will explore this possibility in budget form later in this report.

C. Substitute or add a sheep enterprise to the cattle enterprise.

In helping farmers in the Columbia Basin explore alternative budgets, I have found that a ewe-lamb enterprise is usually more profitable than a cow-calf operation. (Livestock feeding operations are successful under irrigation in the Columbia Basin because they utilize some of the waste crop products. The presence of cheap roughage is also a factor.) It is evident that sheep do well in San Juan Island, although the problem of marketing the lambs has been an increasing one in recent years. At one time there was a killing plant in Friday Harbor and until recently one was located in Lopez Island. At the present time lambs are bought largely by one buyer who has a killing plant in Whatcom County. Mr. Owen Wirak plans to be in San Juan County soon and will investigate the marketing opportunities and problems further. He tells me that lambs are also killed in the Seattle packing plant.

The fact that several thousand sheep are raised each year in San Juan Island opens up the possibility of a breeding herd for sheep. In fact a farm of this kind with a superior breeding program might improve the livestock of the entire island. There will not be as big a demand for breeding cattle from local farmers.

Apparently sheep fit in with part-time farming. One of the local soil conservation employees (Howard Lawson) has grown sheep for a long time in addition to his off-farm employment. He can give very practical information and suggestions about this enterprise.

D. Another enterprise that seems natural for this area would be a horse enterprise. The horse population on the island is increasing and it may be true that the climate of this area lends itself well to the production of horses for pleasure. The fact that timothy hay can be raised seems to me to be an additional plus point for this enterprise. It will be necessary to get additional information beyond my report to test whether horses are a practical possibility.

One additional point in favor of this enterprise would be that it seems to be compatible with the "other goals" for this farm. The presence of horses in the pastures and the possibility of a riding string would add to the attractiveness of this farm for 4-H and leadership conferences. It might be possible that the glamour of this type of an enterprise would also be attractive enough to motivate the interest of pre-delinquent children. This would fit in with one of Mr. Zylstra's goals.

E. Another possibility would be to increase the holly. It is difficult to get good information for this enterprise. Mr. Zylstra mentions the very important fact that holly is sold by mail and that this does not increase the marketing costs of holly from San Juan Island relative to other coastal points. The Doene report contains an analysis of future yields and income from holly, pages 32-35. In any event this crop will not be a source of income for several years but its expense must be included. John Dodge might be able to furnish additional data and analysis.

F. Mr. John Westergreen mentioned the possibility of renting additional land for the production of roughage, or sheep, if there is a need to enlarge the enterprise or enterprises beyond the capacity of this farm. This may be an important suggestion because size of enterprise is closely associated with efficiency and profit.

Mr. Westergreen also mentioned the possibility of specialized seed crops that need isolation. Among those that might be considered are potatoes and cabbage seed. I am sure that Bill Baker has given this idea some thought and could add to the information contained in my report. Perhaps John Dodge, or the personnel at the Northwestern Experiment Station should be asked to explore this possibility further.

In summary, it seems to me that this farm with irrigation will grow many things. The most serious problems that arise are: (1) To secure adequate management for good resources. (2) to grow crops and livestock that are not only adapted to the climate and soil, but that also are competitive with other areas from a marketing viewpoint.

VI. Budget Analyses of Some Alternatives

Method: 1. The fixed costs should be estimated. These will not vary a great deal unless additional land, buildings or machinery are added to the operation.

2. Calculate cash costs of producing pasture and hay.

3. Analyze different livestock enterprises.

4. Analyze effect of adding a cash crop like grass seed.

1. Fixed costs.

R. E. taxes	$1,100
Electricity and telephone	1,000
Insurance	1,100
Depreciation, buildings, fences and yards	5,000
	$8,200

Fixed costs (depreciation, interest and insurance) on machinery are not included in this figure because costs of machinery are figured as custom rates which include fixed costs. I added $1,000 to the present amount charged for depreciation on buildings to cover new buildings and yeards, as well as depreciation on rabbit tight fencing. Insurance premiums look high to me. Real estate taxes going to the county are probably less than this figure.

2. Cash cost of producing irrigated pasture per acre
(Based upon F & HP sheet 205-10a)

Land preparation ($12 ÷ 3 years)	$ 4.00
Fertilizer	20.00
Seed and seeding ($9 ÷ 3 years)	3.00
Irrigation labor (10 times)	5.00
Electricity (under fixed costs)	--
Weed control	3.00
	$35.00 ÷ 2.5 A.U. = $14.00 per A.U. for six months

$14 ÷ 6 = $2.33 per A.U. month

Cash costs of producing hay under irrigation

	Per acre
Land preparation (same as pasture)	$ 4.00
Fertilizer (same as pasture)	20.00
Seed and seeding (same as pasture)	3.00
Irrigation labor (same as pasture)	5.00
Electricity (covered in fixed costs)	--
Weed control (same as pasture)	3.00
Total cash production costs (except electricity)	$35.00
Harvest costs (mowing, raking, baling and stacking or ensiling in trench silo.)	$45.00
Total cash costs of producing 5 tons of hay or silage equivalent	$80.00

$80.00 ÷ 5 = $16.00 per ton. (Cash cost based upon custom rates, excluding electricity for irrigation but including labor and machinery costs as reflected in custom rates.)

3. Livestock budgets

(1) Budget No. 1, Cow-calf commercial beef enterprises.

	Per Cow per Year
Grain 100 lbs barley	$ 2.50
Hay (from farm based upon approximate cash costs of producing hay - see budget estimate) 2 Tons	32.00
Protein, salt and minerals	5.00
Pasture - see budget estimate	14.00
Breeding charge (cash costs of keeping bulls on farm)	5.00
Interest on cow (average life time value, $150 x 5%)	7.50
Vetinary and drugs	4.00
Sub-total per cow	$70.00

Income and expense per cow

Assuming 90 per cent calf crop, 16 per cent of calves saved for replacements:

Calves: 475 lbs x $20 x 84% =		$79.80
Cull cows: 1000 lbs x $10 x 16% =		16.00
Gross income per cow		$95.80
Fixed costs: $8200 ÷ 450 cows	$18.20	
Cash cost per cow	70.00	
		$88.20
Net income to labor, management and capital per cow		$ 7.60

Total for farm 450 cows x $7.60 = $3420 available for labor and management or capital accumulation.

Selling some purebred animals for breeding purebred animals for breeding purposes might increase this estimated income but there would also be added expense such as labor and advertising. For every $1 increase per cwt. in selling price the net income will increase by about $4 per cow. (475 lbs. x $1.00 per cwt x 84% = $3.99).

(2) Budget No. 2, Ewe-lamb operation.

Assumptions: 200 acres of pasture x 12.5 ewes per acre = 2500 ewes
160 acres of hay x 5 tons per acre = 800 tons.
800 tons will feed approximately 2500 ewes.
(At 1/3 ton not quite enough, so I added 5 lbs. of grain per ewe to offset this).

Gross receipts: 125% lamb crop, 90 lb. lambs x 20¢ per lb.
= $22.40 plus wool (10 lbs. x 50¢) = $5.00
Total gross receipts = $27.40

Cash costs on ewe-lamb operation

	Per ewe per year
Replacement and death loss	$ 3.60
Barley 130 lbs. x 2½¢	3.25
Hay 1/3 x $16 ton	5.35
Pasture (2.5 animal units per ewe for 6 months) ($14 ÷ 5 ewes)	2.80
Protein, salt and mineral	1.00
Vetinary and drugs	0.60
Breeding charge	0.60
Shearing	0.50
Interest ($20 x 5%)	1.00
Miscellaneous	0.42
	$19.12
Fixed costs $8200 ÷ 2500 ewes =	3.28
Total costs =	$22.40

Ewe-lamb operation (continued)

Net income to labor, management and capital per ewe	$ 5.00
Total net income for farm (2500 ewes x $5.00)	$13,500

Budget for grass or legume seed production

Expense: 280 acres of suitable land for seed

Cost of production

280 x $40 (production cost per acre)	$11,200
280 x $20 (harvesting and cleaning)	5,600
Fixed cost	8,200
Total cost (excluding interest on real estate)	$25,000

Estimated receipts: 750 lbs x 20¢ = $150.00 gross income per acre (good production and price)

$150 x 280 acres =	$42,000
Net income to labor, management and capital (except interest on real estate)	$17,000

Combination of grass seed and sheep

If the remaining 80 acres could be used to produce sheep at 10 ewes on 2 acres, 1 acre for pasture and 1 acre for hay, (it is assumed that this would be the less productive land), then 400 ewes could be carried. 400 ewes x $5.00 net income per ewe = $2,000. This would be a total of $17,000 + $2,000 = $19,000.

VII. Summary

1. This farm has about 370 acres that, with irrigation and drainage, will support intensified agriculture.

2. Markets and transportation to market are the most limiting factors.

3. All the basic investment items that have to be depreciated such as irrigation system, ponds, buildings and machinery seem practical, except fencing. Study should be made of either a cheaper type fence, or cheaper control of rabbits, when the time comes that this fence has to be replaced.

   The diversification of crops causes an excessive machinery inventory. The possibility of newer and fewer machines should be considered. The machine repair shop should be reviewed by an Agricultural-Engineer, or practical farmer who has experience with machine shops, to determine machine tools required, shop layout, etc. A good machine shop is the nerve center of a successful crop farm.

   Further capital outlays should not be made until the long time direction of combination of enterprises has been determined. For example, a cemented feeding area may not be practical unless cattle are to be fed in winter. If they are, the mechanization of feeding to decrease labor is essential.

4. The cropping program should be decided first and the livestock enterprises adapted to it.

5. Products sold and supplies imported should have a high value per pound because of high freight rates. Grass seed, wool and quality meat animals meet this requirement.

6. A better market for the commercial livestock should be investigated. For example, enough lamb might be produced to meet the requirements of a small chain of stores. The production could be geared to market demand. A brand name noted for quality might be established.

7. Purebred livestock are risky. A small herd might be maintained. The possibility of producing quality rams for local and western Washington growers should be investigated.

8. Processing crops grown under contract are a possibility if a plant and market are available.

9. The assumptions of yields for crops and livestocks, in relation to costs, should be checked by agronomists, livestock specialists, the local county agent and selected local farmers. The predicated budgets depend on yields of 2.5 animal units per acre of pasture, 5 tons of hay per acre, 125% lamb crop, etc.

10. The assumed farm prices should be checked with Emory Wilcox or Karl Hobson.

11. I recommend that the manager receive at least a part of his income as a share of the "net income." "Net income" should be determined after depreciation allowances but before interest is figured on investment.

12. The steps in management that have been taken seem O.K. They are:

    1. Water control (irrigation and drainage)
    2. Practical buildings
    3. Good field layout
    4. Start on good crop practices.
    5. Quality livestock
    6. Rabbit control

    Some additional steps to be taken are:

    1. Weed control
    2. Determination of crops and varieties
    3. Improved and more intensive cropping practices
    4. Review of machinery problems
    5. Review of livestock program
    6. Review of tenure relationships
    7. Determination of management policies

13. This farm can produce a net income above all costs, except interest on investments based on the budget estimates in this report. A combination of grass seed and sheep appears to be practical.

14. I recommend the acceptance of this farm as a conference headquarters by the 4-H Foundation, providing satisfactory arrangements can be made with Mr. Zylstra.

    The decisions on renting the farm or hiring the manager should rest with the 4-H Foundation Board. Perhaps a committee selected by the Board should determine the farm management policies within the over-all policies of the Board. Mr. Zylstra could be a member of this committee. After the committee has "rented" the farm to a manager, he should be given complete management control for a specified period of time, with annual review of contract by the committee.

    A part of the farm used for non-farm purposes might be under separate management. The 4-H Foundation Board, of course, would be the policy board for both operations.

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8/63

TABLE 1

BUILDING SUMMARY

BUILDING	CONSTRUCTION	ROOF	DIMENSIONS	PAINTED	FOUNDATION	CONDITION AND EQUIPMENT	YEAR BUILT	LGTNG RODS	Insurable VALUE at Present	
House #1, 2St. 5 R.&Bath	Frame	Comp.Sh.	22 x 24 6 x 8 18 x 30	White	Concr.	Excellent	1900-1961		$16,000	
PumpHouse	"	"	8 x 8 x 4	Charcoal	"	Excellent	1961		500	
Storage House	"	Wood Sh.	12 x 12x10	"	"	Excellent	1961		600	
Coop & Garage	"	Corr. Metal	30x60 x10	"	"	New Excellent	1961		3,600	
Poultry House	"	"	16x40 x 9	"	"	Good	1961		1,500	
Granary	"	"	18x28 x10	"	Posts	Good	1961		2,000	
Greenhouse & Shop	Conc.Blk & Fr.Blk	Glass & Corr.Mt.	8 x52 x9 32x52 x10	"	Concr.	Excellent	1961		3,000	
Barn #1	Post Frame	Wood Sh.	70x70x14	"	Concr.& Concr.Post	Excellent	1961		12,000	70Tons Baled Hay
French Silo	Concr.	-	29x74 x7	-	Concr.	Excellent	1961		None	Est. 600 T.
House#2, 1St. 5 R& Bath	Frame	Comp.Sh.	30 x 54	Charcoal	Concr.	Excellent	1962		12,000	
Root Cellar	Rock	Concr.	12 x 16x7	no	Rock	Poor	1900		none	
Garage	Concr.	Wood Sh.	18 x 24x 9	no	Concr.	New	1962		2,500	
Old ** Granary	Frame	Wood Sh.	24x36x10	no	Rock Pillar	Poor	1900		none until repair.	needs new sheeting & paly.roof
New Barn	Frame	Wood Sh.	62' x100'	Charcoal	Concrete	Excellent	1963		-	

COMMENTS:

** Being repaired(?)

* Hay storage
98' x 30' x 25'
Located 280 ft. north of other barn
cemented feeding platform on both sides

TABLE 2

MACHINERY AND EQUIPMENT

The farm is well equipped with machinery and equipment, which with a few exceptions should prove adequate. This equipment is listed as follows:

1	8 30 Diesel Tractor - Case
1	5 30 Diesel Tractor - Case
1	Gravely Tractor with rotary plow and mower
1	Rotary Tiller
1	10 Ft. Grain Drill
1	Cultipacker Roller
1	Chisel Plow
1	3 Bottom Moulboard Plow
1	Disc Harrow
1	Spike Tooth Harrow
1	7 Ft. Case Mower
1	4-Wheel Trailor
1	12-inch Danuser Post Hole Digger
1	Cement Mixer mounted on Tractor
1	Front end Loader
1	8 Ft. Leveling Blade
1	1949 Dodge Dump Truck - 2 ton
1	1956 Chevrolet ½ ton Pickup
1	McCullough Chain Saw
1	Vibrator for Cement
7	Hand Shovels
2	Axes
2	Picks
1	200-gal. Spray Tank with gas motor
1	1956 Chevrolet 2 Ton Truck
1	Steam Cleaner
1	Concrete Block Machine
1	Case Fertilizer Spreader

FRED ZYLSTRA
Wooden Shoe Farm
(Attach to Form 1040)

Depreciation 1962

	Acquired	Cost	Depreciation Taxes	Rate	Depreciation 1962
Buildings					
Frame Dwelling	8-1-60	$ 8,000.00	$ -o-	Personal	$ -o-
Concrete Block Barn	8-1-60	5,000.00	212.50	3%	150.00
Frame Granary	8-1-60	1,000.00	70.85	5%	50.00
Pump House	8-1-60	1,000.00	70.85	5%	50.00
Milk House	8-1-60	500.00	35.43	5%	25.00
Chicken House	8-1-60	1,000.00	70.85	5%	50.00
Bldg. Improvements	1960 Varied	3,729.41	216.83	5%	186.47
" "	1961 Varied	52,365.30	1,309.13	5%	2,618.27
" "	1962 Varied	33,087.79	-o-	5%	827.20
		$105,682.50	$1,968.24		$3,956.94
Equipment					
Tractor	10-16-60	$ 10,482.50	$ 856.08	7%	$ 733.78
86" West Tiller	10-28-60	1,281.60	104.68	7%	89.71
Loader	11- 1-60	83.16	6.79	7%	5.82
Farm Truck	11- 1-60	1,389.91	324.31	20%	277.98
"D" Tractor	11- 1-60	2,834.10	231.45	7%	198.39
Mounted Plow	11- 1-60	544.50	44.47	7%	38.12
Loader	11- 1-60	514.70	50.20	7%	43.03
Transmix	11- 1-60	237.60	19.40	7%	16.63
1949 Dodge Dump Truck	5- 5-61	500.00	66.87	20%	100.00
E-10 Mower	9-30-61	440.20	7.84	7%	31.37
Fencing	4-25-61	2,007.00	93.26	7%	140.49
Pump	2-15-61	603.94	50.50	10%	60.59
Small Equipment	Varied	4,050.44	202.52	10%	405.04
Irrigation Equipment	5- 1-62	3,268.42	-o-	10%	217.94
Silage Chopper	5-30-62	1,232.58	-o-	10%	71.89
Hay Elevator	7- 5-62	350.00	-o-	20%	35.00
Combine	7-30-62	2,200.00	-o-	7%	84.15
Westeoaster	7-30-62	1,167.98	-o-	20%	97.30
Diesel	7-30-62	1,299.00	-o-	20%	191.60
Small Equipment	Varied	950.87	-o-	20%	85.09
		$ 36,449.49	$2,058.17		$3,903.82
Dam					
Original	12-28-60	$ 2,640.92	$ 264.09	10%	$ 264.09
Improvements	9-30-61	3,806.00	95.15	10%	380.60
"	12-31-61	100.00	-o-	10%	10.00
		$ 6,546.92	$ 359.24		$ 654.69
Cattle					
10 Heifers	12-20-61	$ 2,000.00	$ -o-	7 Years	$ 285.71
10 Cows	12-20-61	4,500.00	-o-	4 Years	1,125.00
One Bull	4- 2-62	2,000.00	-o-	4 Years	375.00
35 Cows	11-30-62	9,275.00	-o-	4 Years	386.46
20 Poled Hereford Females	12-30-62	24,000.00	-o-	7 Years	-o-
		$ 41,775.00			$2,172.17
Holly Trees					
1000 Holly Trees	4-16-62	$ 5,236.90	-0-	2½%	$ 65.34
			Total 1962		$9,752.96

TABLE 4

F & HP
204-15 c

Estimated Costs (except land) and Returns Per Acre to Land STRAWBERRY (crop)

Kitsap (location), 1957 (year).

	Standard* 1st year	Your Estimates	Standard* 2nd, 3rd, 4th & 5th years	Your Estimates
Land Preparation:				
Plow	$ 10.00			
Disk and harrow				
Packing				
Aldrin	18.75			
Fertilizer Am. Nitrate	4.10		4.10	
Applying Muriate Potash	4.50		4.50	
fertilizer Treble Superph. (950#)	48.60		12.55 (250#)	
Plants (20-24 x 44) 5600	84.00			
Machine Planting	21.00			
Irrigation				
Labor	10.00		10.00	
Water and electricity				
Cultivation	26.00		26.00	
Weed control (Hand hoe				
(Chemical	150.00		150.00	
Insect and disease control	35.00		35.00	
Total pre-harvest:	$411.95		$242.15	
Harvesting costs (show important items)			480.00	
Total harvest:			480.00	
Total costs (exc. land)			$722.75	
Yield per acre (carrying capacity, bushels, tons, etc.)			4 ton	
Value per acre				
Total Value			$1200.00	
Total Costs (exc. land)			722.75	
Net returns to land (and management)			477.25	

*These costs are guides based on custom rates. Land "costs" can be estimated by charging the usual share that goes to the landlord against the crop; or a charge for taxes, interest on investment and depreciation (on such permanent investments as buildings) can be calculated and totaled.

Strawberry (crop) production in Kitsap (location)

for 1957 (year).

Requirements:

Recommendations:

"Dynamiting" plants at planting time is an accepted practice.

Chemical weed control could be an accepted practice but more have to try it before a cost per acre basis can be established.

Problems peculiar to this crop:

Allowing 6¢ per pound for picking and a field boss but will not take care of hauling. This is another individual problem.

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TABLE 5

F & HP
204-15 b

Estimated Costs (except land) and Returns Per Acre to Land STRAWBERRIES (crop).

Clark County (location), 1955 (year).

	Standard* 1st year	Your Estimates	Standard* 2nd, 3rd, 4th & 5th years	Your Estimates
Land Preparation:				
Plow	$ 4.00			
Disk and harrow	5.00			
Packing				
Cover crop	19.35			
Fertilizer	21.90		21.90	
Applying fertilizer	4.00		4.00	
Seed	100.00			
Seeding	12.00			
Irrigation				
Labor	2.00		2.00	
Water and electricity	4.00		4.00	
Cultivation	12.00		12.00	
Weed control (hand hoeing $36) (dormant spray $19.50)	55.50		55.50	
Insect and disease control	30.85		14.25	
Total pre-harvest:	270.60		113.65	
Harvesting costs (show important items) Picking @ 5¢ Supplies & equipment $18	0		300.00	
Total harvest:	0		318.00	
Total costs (exc. land)	270.60		431.65	
Yield per acre (carrying capacity, bushels, tons, etc.)	0		6000#	
Value per acre				
Total Value	0		900.00	
Total Costs (exc. land)	270.60		431.65	
Net returns to land (and management)	- $270.60		$468.35	

*These costs are guides based on custom rates. Land "costs" can be estimated by charging the usual share that goes to the landlord against the crop; or a charge for taxes, interest on investment and depreciation (on such permanent investments as buildings) can be calculated and totaled.

_____ production in _____
(crop) (location)

for _____.
(year)

Requirements:

Recommendations:

Pre-planting soil treatment for weevil control at a cost of approximately $18 per acre is only $4.50 per acre when pro-rated over its 4-year period of effectiveness. A bait program costs $6.50* each year and is sometimes washed out by rainy weather. Materials for soil treatment are Aldrin or Heptachlor.

*per acre

Problems peculiar to this crop:

The yellows virus disease is most serious problem affecting the Marshall strawberry. Use of clean planting stock, removal of unthrifty plants and aphis control are chief measures for control.

5/59
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APPENDIX

Legal Description of Farm

Township 35, Range 3 West, San Juan County, Washington

S½, NW¼ Sec. 21
S½, NE¼ Sec. 21
N½, SE¼ Sec. 21
S½, SW¼ Sec. 17
S½, SE¼ Sec. 17
NE¼ Sec. 20
NW¼, SE¼ Sec. 20

Approximate Acreage Available

180 acres of pasture
180 acres of hay — Land Use Capability 2 and 3
10 acres of holly
35 acres of roads, farmsteads, waste
55 acres in ponds
135 acres of woods
5 acres to county for road right-of-way
600 acres

180 acres of pasture x 2.5 A.U. per acre for 6 months = 450 animal "pasture" units.

180 acres x 5 tons = 900 tons ÷ 2 tons per animal unit for 6 months = 450 animal units (winter roughage).

Appendix

F & HP
205-11 a

Estimated Costs (except land) and Returns Per Acre to Land PASTURE (crop).

Columbia Basin (location), 1955 (year).

	Standard* 1st year	Your Estimates	Standard* 2nd, 3rd, 4th & 5th years	Your Estimates
Land Preparation:				
Plow	$ 4.00			
Disk and harrow	4.00			
Packing	1.00			
Float	1.00			
Fertilizer 66# N	10.00		100# N 15.00	
Applying fertilizer	2.00		3.00	
Seed	3.00			
Seeding	2.00			
Irrigation				
Labor	8.75		8.75	
Water and electricity	7.21		7.21	
Cultivation				
Weed control				
Insect and disease control				
Total pre-harvest:	$ 42.96		$ 33.96	
Harvesting costs (show important items)	$ 3.00		$ 3.00	
Total harvest:		$ 3.00		
Total costs (exc. land)		$ 45.96	$ 36.96	
Yield per acre (carrying capacity, bushels, tons, etc.)	8 A.U.M.		15 A.U.M.	
Value per acre 8 A.U.M. @ $5.00 = $45.00				
Total Value		$ 45.00	$ 75.00	
Total Costs (exc. land)		$ 45.96	$ 36.96	
Net returns to land (and management)		-$ .96	$ 39.04	

*These costs are guides based on custom rates. Land "costs" can be estimated by charging the usual share that goes to the landlord against the crop; or a charge for taxes, interest on investment and depreciation (on such permanent investments as buildings) can be calculated and totaled.

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Appendix

F & HP
305-10

GUIDE FOR ESTIMATING LIVESTOCK INCOME AND COSTS

Kind of Enterprise	Ewes and Lambs (Farm Flock)		
	Standard Per Ewe		Standard per acre Your Estimate
Assumptions	125% lamb crop, 90 lbs. lambs x 20¢ per lb. = $22.40 Wool 10 lbs. x 50¢ = $5.00		Same 5 ewes and lambs equal 1 cow and calf.
Gross income per enterprise unit		$ 27.40	5 x $27.40 = $137.00
	COST ITEMS		
Purchase cost	Ewe death loss Annual depreciation	.60 3.00	
Grain: Barley equivalent	125 lbs. @ 2½¢	3.13	
Hay	1/3 T	5.33	
Pasture	Included $1 for extra fencing	5.00	
Protein, salt and mineral		1.03	
Breeding charge		.75	SAME
Veterinary and drugs		.60	
Taxes and insurance, 1.5% of livestock and equip. investment	$35 x 1.5%	.52	
Depreciation and repairs on livestock equip., 9%	$3 x 9%	.27	
Miscellaneous expense, 1.5% of gross receipts	$24 x 1.5% + shearing	.87 .50	
Sub-total of costs		$ 21.10	5 x $21.10 = $105.50
Return to labor and capital		6.30	31.50
Labor requirements	5 hours		25 hours
Buildings and corrals (average investment)	$5 to $15		$50
Annual charge	$0.50 to $1.50		$5
Return per hour of labor	$1.16 to $0.96		$1.06

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Appendix

FRED ZYLSTRA
Wooden Shoe Farm
(Attach to Form 1040)

Insurance Schedule - 1962

	Premium Cost	Rate per Month	Period	1962 Expense
#FL 87381 General Insurance				
200/400 BIJ 100-PDL				
12/16/61 - 12/16/62	$544.11	$ 45.34	11 Months	$498.77
12/16/62 - 12/16/63	453.45	37.70	1 Month	37.70
M.P.121746 General Insurance				
Farm Equipment Floater				
12/16/61 - 12/16/62	160.96	13.41	11½ Months	$154.22
12/16/62 - 16/16/63	160.96	13.41	½ Month	6.74
#777523 General Insurance				
Fire & Extended Coverage				
8/11/61 - 8/11/62	350.90	29.24	7½ Months	219.30
8/11/62 - 8/11/63	436.62	36.39	4½ Months	163.74
#748-20-07 General Insurance				
Fire & Extended Coverage				
10/11/62 - 10/11/63	101.11	8.43	3 Months	25.29
#BPP 184076 General Insurance				
Personal Property	149.22	Personal Insurance		$1195.76