

ALASKA LEGISLATURE SPECIAL COMMITTEE / SUBJECT FILES 8672

345 SCOM10: LOCAL GOVERNMENT STUDY 1979

However, Part 135 operators in the Fairbanks area are alleged to have received approval.

The question on use of ADAP funds to purchase portable lights that operate on batteries was presented.

Response: BY STATE: The decision on installation of lights often ends up as a low priority since the state has so many locations that still need basic airport improvements. A second factor is the lack of funds to pay for cost of operating the light if they were installed, also in many locations it would require the installation of equipment to generate the power necessary to operate the lights. In general the installation and operation cost is a major factor in the decision on where to install lights.

By FAA: We will check on the status of the flare request. (A written request was submitted to GADO on 9-20-79. The use of flare pots will be approved in accordance with instructions to be placed in Sea Aeromotive's ATCO manual. The date of approval will depend in part on Sea Airmotive's completing the revisions but should be about the middle of October.)

The ADAP requires that runway lighting systems be designed

in accordance with advisory circular specifications and utilizes FAA approved equipment. The specifications for runway lights include intensity, light pattern, color, etc.

Additional Comment on Lights: It was generally agreed that reflectors provided some assistance but do not in any way eliminate the need for light. It was stated that the test involving strobe lights and reflectors did not show that the combination provided much assistance.

Terminal Building: The representatives from both Kipnuk and Nunapitchuk made comments about terminal buildings.

Nunapitchuk: Their building at the airport needs some repairs. The door has been damaged for some time.

Kipnuk: They need a building at the airport. At present, there is no place for people to wait for the airplanes. This makes it difficult for the old people when they have to travel in the winter or when there is rain or wind.

Response: BY FAA: Terminal Buildings are eligible for funding as an ADAP project.

BY STATE: Terminal Buildings for small villages are also a

victim of priority system and the lack of funds to operate and maintain them if they are constructed. They will plan to determine what repairs is need at Nunapitchuk.

Crosswind Runways: Several comments related to the eligibility of crosswind runways for ADAP funding.

Response: BY FAA: The FAA stated crosswind runways are eligible under ADAP if crosswind components greater than 12 miles per hour occur more than 5 percent of the time for runways served by small aircraft. The FAA recommends a minimum crosswind runway length of 80 percent of the primary runway

BY STATE: Comment on this issue was deferred since there were no representatives present from the Facility Planning and Research Division.



Reporting unsafe actions by pilots: Several comments related to unsafe activities by pilots, ^gSuch as loading and unloading passengers with engine running and taking off on the downwind runway. This discussion lead to the question of how these incidents should be reported.

A representative from one of the Air Taxi Companies

indicated that the company should be advised so that they could take corrective action.

Response By FAA: Unsafe practices or activities can be reported to the General Aviation District Office.

Changes to Part 135: Are any changes to Part 135 (such as duty time) presently contemplated?

Answer: The proposed change to the duty time rules was withdrawn when revised Part 135 was implemented. We have not heard anything further regarding changes. Minor revisions to Part 135 are underway to correct problem areas that we have encountered with this new regulation.

FAA: We are working with the Alaskan Aviation Safety Group to put on safety clinics in various communities. The clinics will offer free safety inspections of aircraft. A list of any discrepancies discovered is provided to the aircraft owner. The free inspections at these clinics will not be used as the basis for FAA enforcement action. We have targeted Bethel for such a clinic and will be contacting pilots in the Bethel area to determine if, they are interested in the project. We will only come if the flying community indicates their support for the program.

We feel that our programs in Anchorage, Fairbanks, Juneau, and Ketchikan were all very beneficial.

Aviation Weather: Key comments alluded to the fact that as the years have past, and we have modernized the system the size of our weather net has decreased. For a variety of reasons we receive fewer reports which create an added burden on the VFR pilot. Present restrictions on who we can accept reports from have also hurt the process.

Response By FAA: We recognize the deficiencies in the aviation weather reporting system and we have been striving to expand the number of reporting stations by using contract observers. A recent inter-agency agreement between the FAA and NWS has resolved some technical problems and we are now planning to increase the statewide system by 40 new stations. Right now we are working with the NWS to develop a list of locations that will be most beneficial to the system. In this regard, we have tentatively identified several potential locations in the general Bethel area. We certainly solicit recommendations as to where, when, and how we could establish new reporting locations in the area. We need interested and reliable persons at each location and also reliable communications to an FSS.

SCOMM

#10:26



Official Business

Alaska State Legislature

JOINT SENATE AND HOUSE
COMMUNITY AND REGIONAL AFFAIRS COMMITTEE
LOCAL GOVERNMENT STUDY

Co-Chairmen
Senator Arliss Sturgulewski
Representative Bill Parker

Address all
correspondence to:

LOCAL GOVERNMENT STUDY

Pouch V
State Capitol
Juneau, Alaska 99811

The Local Government Study Committee will be holding a public hearing in Delta Junction, Saturday, December 15, on the subject of creation of regional boundaries in the unorganized borough. The hearing will be held in the lobby of the Delta Junction High School at 2 p.m.

The Committee will be discussing the following proposed legislation:

Creation of Regional Units

Geographic, regional boundary lines will be developed for the collection of data for planning and programming purposes. The bill will provide for the division of the State's single unorganized borough into unorganized boroughs by the Department of Community and Regional Affairs after public hearings in the areas affected. The Regional Educational Attendance Areas, and/or combinations thereof, will be considered the regional units subject to public hearing modification.

Home Rule

Legislation will provide that regional units may incorporate as home rule municipalities without prior incorporation as a first class municipality. The Local Boundary Commission would be involved in determining the acceptability of the regional unit boundaries and the compliance of such boundaries with borough incorporation standards.

In addition, legislation will be introduced which allows for the reclassification of second class boroughs as home rule municipalities without first adopting first class status.

Regional Strategy Study Fund

The Regional Strategy Study Fund would provide monies to be used for regional studies which would address economic, social and physical factors present in the regional unit. The studies would also address the feasibility and viability of local government formation. The Fund would be administered by the Department of Community and Regional Affairs which would consider proposals for a study after having been petitioned by a representative segment of the population of the regional unit.

Foundation Approach

The feasibility of a foundation approach for the delivery of basic services (i.e., public safety, health and sanitation, and public assistance). This approach would establish a basic level of service delivery for all residents of Alaska, in addition to education, which is already covered.

Members of the Committee including the Co-Chairmen are:

Sen. Tim Kelly
Sen. Terry Simpson
Rep. Ray Metcalfe
Rep. Fred Zharoff

Sen. Bob Mulcahy
Rep. Pat Carney
Rep. Pat O'Connell

Sen. Pat Rodey
Rep. Margaret Branson
Rep. Charlie Parr

LETTER OF UNDERSTANDING

Between: The U.S. Army, Alaska, and the State of Alaska

Subject: Cooperative Management Actions Relating to the Big Delta Buffalo Herd

Objective: To So Manipulate and Alter the Normal Migratory Pattern of the Big Delta Buffalo Herd that Conflicts Between the Buffalo and Agricultural Production in the Area and Between the Buffalo and Military Activities Will Be Either Eliminated Completely or Reduced to an Acceptable Minimum While Maintaining the Buffalo Herd of Approximately 350 Animals

Achievement of Objectives: The most logical trail leading from the normal migratory route to the agreed-upon area near Jarvis Creek on the Fort Greeley Military Reservation will be located. The origin of the trail is to be as near to the calving grounds of the buffalo as practical. The trail is to be cleared, with cleared fields of approximately 15 to 40 acres interspersed along the trail and in the Jarvis Creek area. A total of approximately 500 acres is to be cleared on soils suitable for the production of barley and approved perennial grasses.

The State of Alaska shall contribute:

1. The fertilizer required for planting the above crops in the proper amounts as indicated by soil tests.
2. The seed required for planting such crops.

However, the contribution of the State shall be no more than \$30,000.00.

The U.S. Army will be responsible for the physical work required in clearing, seedbed preparation and planting. Both U.S. Army and State of Alaska responsibilities will be carried out in a timely manner so that initial planting of 100 acres will take place in the spring of 1980.

Negotiations between representatives of the U.S. Army and the State of Alaska will continue with the objective being the finalization of a five-year cooperative management plan for the Delta bison herd.


W. I. "Bob" Palmer
Special Projects Coordinator
Office of the Governor


Colonel Louis J. Bonito
Facilities Engineer
172d Infantry Brigade

Date: 11/23/77

Date: 23 Nov 77

October 19, 1979

Colonel Louis J. Bonito ATTN: AFZT-FE
Facilities Engineer
172nd Infantry Brigade
Fort Richardson, Alaska 99505

Dear Colonel Bonito:

I want to express my appreciation and that of Governor Hammond for the fine attitude and cooperation shown by the U.S. Military representatives in our discussions of the bison herd management on Fort Greely.

I have drafted, signed and enclosed a Letter of Understanding that summarizes the results of those discussions.

If you agree that such a letter of Understanding is desirable and that the enclosed accurately reflects our conclusion, then it would be helpful to have your signature on a copy and have it returned to me.

Our thanks again for your cooperation.

Sincerely,

W. I. "Bob" Palmer
Special Projects Coordinator

Enclosure

September 5, 1979

Colonel Louis J. Bonito
Facilities Engineer
172nd Infantry Brigade
Fort Richardson, Alaska

Dear Colonel Bonito:

Apparently, my earlier letter on this subject has disappeared enroute. I would like to repeat then my desire to have representatives of the State of Alaska meet with decision-making level representatives of the military establishment in Alaska to consider solutions to the bison/farmer/military conflict in Alaska.

My hope is that working together we can develop a plan for management of the bison herd at Delta Junction that will eliminate present and future conflicts between the bison and other interests.

I would hope that the option showing the greatest promise of effectively resolving those conflicts would be approved, whether it involves utilization of lands on the military reservations at Ft. Greely or on State lands.

Obviously, the bison herd is a resource that we want to preserve. Just as obviously, we want to eliminate the very considerable economic loss to the farmers of the area and the conflicts between the bison and military activities.

I believe we can, through working effectively together, achieve all those objectives.

I understand that a meeting has been arranged for September 6 in Delta Junction with representatives of the general public, the military and the State Administration in attendance. I am asking Bob Palmer of my office to handcarry this letter to you and to be my representative at that meeting.

My sincere appreciation for your cooperation and my best wishes for the success of the project.

Sincerely,

Jay S. Hammond
Governor

AGRICULTURE IN ALASKA - PAST, PRESENT AND FUTURE

Presented by:

W. I. "Bob" Palmer
Special Projects Coordinator
Office of the Governor

November 19, 1979

AGRICULTURE IN ALASKA - PAST, PRESENT AND FUTURE

Our knowledge of Alaska's agricultural past begins with some of the first Russian settlers who transported cattle and goats from Siberia to Kodiak Island in the latter part of the eighteenth century. These early settlers also grew such vegetables as potatoes, cabbages, radishes, and lettuce, although with limited success because of a wet climate.1/

After U.S. purchase of the territory in 1867, there was little agricultural activity beyond the food that the small white populace grew for their own tables. In 1884, U.S. officials had been led to believe through erroneous reports that the Alaska climate effectively ruled out agriculture. Such thinking changed during the next few years, however, and by the late 1880's, the U.S. Government had established agricultural experiment stations at Sitka, Kenai, and Kodiak to conduct research toward adapting certain grains, vegetables, fruits, and livestock to Alaska conditions.2/

The gold discovery near Nome in 1900 brought thousands of prospective miners to that area, and this new market gave a boost to a fledgling experiment in Alaska animal husbandry -- reindeer. Reindeer were first imported by the U.S. Government from Siberia in the early 1800's to be used as a subsistence resource for the Natives. But when the gold rush created the nearby market, Natives and others began to sell reindeer meat to the miners. After the gold rush population subsided, the reindeer population in Alaska continued to increase, being used both for local subsistence and commercially for local as well as import markets in the United States. Reindeer herds increased steadily until they peaked in

1932 at approximately 640,000 animals. After that, for a variety of economic and other reasons, their numbers decreased precipitously. Total number in 1968 were estimated at only 30,000 head.3/

The 1902 discovery of gold in the north Tanana Valley led to development there of a significant market for agricultural products. A small agricultural industry developed in response to the growing numbers of gold seekers, and local farmers produced grains, vegetables, livestock, and poultry products. In fact, in the 1910's, a flour mill operated in Fairbanks, using locally grown wheat and producing flour for the local market. However, as gold production diminished and the boom population decreased, agricultural activity also decreased.4/

A depression-inspired experiment in the mid-1930's renewed agricultural interest in Alaska when the U.S. Government transplanted an impoverished group of farmers from the midwestern United States to the Matanuska Valley to develop agricultural production in that region. This experiment was a success to the extent that today, this valley produces the largest volume of agricultural products in the state.5/

During the late 1940's, the U.S. Department of Agriculture (USDA), in response to U.S. military concern for the vulnerability of Alaska's food supply, increased its efforts to make the territory less dependent on other states. The USDA increased its agricultural research, expanding on-going programs and introducing new ones. In addition, the military increased its purchases of locally grown products. As a result, partly of this and partly because of a growing population, Alaska agriculture grew steadily from that time until the

early 1960's. By the sixties, however, because of an improving transportation network between Alaska and the lower U.S., Alaska's small-scale, inefficient agriculture simply could not compete with the massive, cheaper output of its lower U.S. counterpart and the U.S. subsidized freight rates to ship those foods to Alaska. Thus, agriculture in Alaska stagnated during the 1960's (Table 1).^{6/}

TABLE 1

Summary of Alaska Crop and Livestock
Sales 1960-1974

Year	Crops	Livestock	Total
1974	\$1,987,000	\$3,654,000	\$5,641,000
1973	1,980,000	3,318,000	5,298,000
1972	1,343,000	3,040,000	4,383,000
1971	963,000	2,871,000	3,834,000
1970	903,000	3,112,000	4,015,000
1969	624,000	2,948,00	3,572,000
1968	1,031,000	3,060,000	4,091,000
1967	920,000	3,197,000	4,117,000
1966	1,025,000	3,299,000	4,324,000
1965	989,000	3,255,000	4,244,000
1964	1,332,000	3,025,000	4,357,000
1963	865,000	3,148,000	4,013,000
1962	1,139,000	3,265,000	4,404,000
1961	1,090,000	3,315,000	4,405,000
1960	1,020,000	3,116,000	4,136,000

SOURCE: Alaska Crop and Livestock Reporting Service, Palmer Alaska

Since 1974, sales of livestock, poultry and crops have increased. (See table 2.)

TABLE 2
Summary of Alaska Livestock, Poultry and Crops
Sales 1976-1978

Year	Crops	Livestock/Poultry 1/	Total
1976	\$3,051,000	\$3,831,000	\$6,882,000
1977	2,946,000	3,937,000	6,883,000
1978	3,131,000	3,595,000	6,726,000

1/ Reindeer not included

Today, it appears as if a new era has dawned for agricultural development in Alaska. For the first time in Alaska's history, ag development is underway on a scale designed to make it competitive on the world markets, and thus insulate it from the boom and bust cycles of domestic consumption.

This new day for agriculture in Alaska began with action by the Federal-State Land Use Planning Commission. Under a contract with that Commission, two ag economists, Dr. R. J. Hildreth, Farm Foundation in Chicago, and Dr. J. Edwin Paris of Clemson University in North Carolina, analyzed the agricultural potential in Alaska. Their report (February, 1975) concluded that small grain production, especially barley, was not only agronomically feasible in Interior Alaska but appeared to be economically feasible also if farmers were allowed to produce on a scale comparable to small grain farming in the United States and Canada and if at least 50,000 acres were put into cultivation at approximately the same time. This acreage was thought to be the minimum "critical mass" needed to support the infrastructure of an economically feasible crop-producing area.

Their report said in essence that to become feasible, the grain would have to be produced at a competitive price to meet conditions and standards, both for quality and quantity on the world export market and that insufficient demand existed within Alaska to provide the market necessary for economical production. They stated, however, that from a technical basis, previous research indicated that barley was well adapted to conditions in a number of places in Alaska, that costs and yields were such that it appeared feasible to produce for the export market, and that while costs of producing an acre of barley in Interior Alaska were approaching 200 percent of similar costs in Nebraska, yields were more than twice those of Nebraska, and quality was better.

In accord with his oft-expressed views and those of much of the public that "non-renewable resource wealth (oil) should be used to stimulate renewable resource industries", Governor Hammond issued instructions to his Special Projects Coordinator to determine the feasibility of implementing the recommendations of the Faris-Hildreth report.

As a result of those instructions from the Governor and the very extensive efforts of agricultural experts across the State, approximately 62,000 acres of agricultural lands were sold by lottery to 22 residents of the state in August of 1978. Complying with state law, ag rights only were sold, with the state retaining the development rights. This policy assures that the land will remain in agricultural production and that the farmers can only be taxed on the agricultural value of the land -- not on artificial "subdivision" value. An economic analysis done by ag economists of the University of Alaska and critiqued by ag economists of the USDA concluded that family farm units of approximately 2,000 to 3,000 acres were needed to be economically competitive on the world

market, and therefore produce grain for the domestic market at a price that would stimulate the development of a red meat industry within Alaska.

Today, approximately one year after the disposal of those agricultural lands under the project proposal submitted by the Special Projects Coordinator and approved by Governor Hammond and the legislature, 45,000 acres have been at least partially cleared; 3,000 acres are now ready to be planted in the spring of 1980, and several thousand additional acres are expected to be prepared by planting time in 1980. In fact, crops were harvested in September of 1979 from 290 acres of the project that were still virgin timber on permafrost soils in February of 1979.

Eighteen miles of good roads have been built to service the farmers; an elevator-dryer complex has been constructed, the first 3,000 tons of barley have been produced, dried and are now in secure storage; and initial sales in Alaska have been completed. Overseas markets for surplus grain have been located and under a small-scale test marketing program approved by the legislature, the first 1,000 tons of high-quality barley will be exported to Taiwan in early 1980.

Recent developments involving the Delta Project are many and varied. A study by the Battelle Institute, not yet published, indicates that the biomass from ag development can be used in a number of beneficial ways, including the production of methanol and heat for steam-generated electric power and others. If so, the problems caused by the on-site burning of thousands of acres of forest residues may be avoided. It is worth remembering, however, that the value of mineral elements returned to the soil when black spruce timber is

burned in place approaches \$140/acre. This value must be considered when contemplating other uses of the biomass.

Japanese corporations have expressed great interest in purchasing Alaskan-grown rapeseed for processing into a highly favored cooking oil. Since the crop is widely grown in the northern agricultural areas of Canada and appears to be well adapted to production in Alaska, its potential value to the Delta Project seems highly significant. The same equipment is used for planting and harvesting as for barley; it fits well in a crop rotation with barley; and in Canada, at least in some years, produces much more profit per acre than does barley.

In addition, rapeseed production can benefit significantly by the utilization of two hives of honeybees for pollinization per acre of rape. The honey produced (75-300 pounds per hive in Canada) is of extremely high quality and a ready market exists in Japan for any surplus.

With the expectation of perhaps 10,000 acres of rapeseed production by 1982 and the opportunity for 20,000 colonies of honeybees producing, perhaps, 2,000,000 pounds of honey at a minimum of \$1.50 per pound, the potential for a new industry worth at least \$3 million annually becomes apparent.

Trading companies in Japan have expressed the desire to have produced under contract 50,000 tons annually of buckwheat. This is another major honey crop, grows well in northern climates, and may fit quite well into the crop production alternatives for Interior Alaska.

Nugget bluegrass and Arctared fescue seed production appear also to offer very profitable crop alternatives for Interior Alaska.

Increases in the livestock industry appear to be taking place at a more rapid pace than earlier expected. Several substantial proposals involving production of beef, pork and dairy products based on the utilization of Delta Project grain are under serious consideration, although details are not yet available.

It is well to note that the entire philosophy of the Delta Project has been based on developing a proposal that (1) is economically sound and able to exist, when mature, unassisted by subsidies, and (2) government involvement should be withdrawn as quickly as the private sector can take over.

A second major harbinger of an emerging agriculture in Alaska's future is the Alaska Agricultural Action Council created by the 1979 State Legislature in Senate Bill 14. This council, composed of three state government and two private sector members and chaired by the Special Projects Coordinator, Office of the Governor, is mandated by the law under which it was created to report to the legislature annually with recommendations.

1. for one or more ag development projects;
2. proposed legislation identifying the tasks of various state agencies necessary to accomplish the development project;
3. proposed legislation granting "to the council sufficient authority to insure cooperation of all state agencies involved in the implementation of the agricultural development project".

The AAAC in its report to the 1980 session will recommend a 15,000- to 40,000-

acre ag project in the Point MacKenzie area near Anchorage. It will probably recommend an additional 60,000 acres to be added to the existing Delta Project and may lay the groundwork for a project of perhaps 100,000 acres in the Nenana area.

While the original focus of the Delta Project was the production of small grains, the primary focus in Point MacKenzie will be on breathing new life into the dairy industry while providing additional lands for vegetables, forage, and livestock industries. As Matanuska Valley agriculture shrinks under the never-ceasing encroachment of Anchorage bedroom community subdivisions, the number of dairy farms declines. If the transportation, marketing, and processing infrastructure of the existing dairy industry is to survive, the aforementioned trend must be reversed.

State-owned ag lands in the Point MacKenzie area, well-suited for dairying and available at relatively low cost on an "ag rights only" basis, appear to be the solution. According to statements of Matanuska Maid officials, even now \$175,000 per month flows out of Alaska to purchase Grade "A" milk from the Pacific Northwest to be processed by Alaska processors. Existing dairies in the Mat Valley, operating in the black, furnish strong evidence that with reasonably priced land, Alaskan dairies can compete for Alaskan markets with "South 48" production.

Only time will discern whether the crystal ball is flawed or whether its visions project a somewhat accurate forecast of things to come.

Be that as it may, those visions -- based on the fact of 15 to 20 million acres

of land suitable for agriculture in Alaska and the importation at present of 95 to 98 percent of the red meat consumed in Alaska -- include:

1. Small grain production (including wheat and rapeseed) on at least 500,000 acres of land by 1990.
2. Native regions utilizing substantial acreage for cash crop production to assist their peoples in the transition to a cash economy without moving from their tribal lands.
3. Extensive vegetable production emphasizing a minimum of chemicals and the highest of quality for shipment to "South 48" markets sensitive to the increased concern of carcinogenic materials in food.
4. Large-scale pork production under "controlled environment" conditions for local consumption and shipment to Asian markets.
5. Greenhouse production of roses and other flowers, utilizing heat from the gas pipeline compressors and competing in price and quality on world markets.
6. A very rapidly developing beef industry, utilizing cow-calf operations, vealers from the dairy industry and feeder stock from Canadian producers.
7. Production of beef animals and dairy beefers in the more favored areas of the Alaska Peninsula and the Aleutians for shipment to Asia.

My crystal ball presents a very strong vision of a robust agricultural economy emerging in the next 10 years that will, within the next 20 years, provide:

1. a significant portion of the food required for Alaskans at lower cost and higher quality than is produced "outside".
2. a stable, renewable resource-based industry employing thousands of people.
3. a quality of life for many, unsurpassed by any other available.

FOOTNOTES

1. Wayne Thomas, "Agriculture in Alaska: 1976-2000 A.D.," ALASKA REVIEW OF BUSINESS AND ECONOMIC CONDITIONS, XIII (June, 1976), p. 1.

2. Ibid.

3. Ibid., pp. 1-2.

4. Ibid., p. 2.

5. Ibid.

6. Ibid.

File
11-29-79 - From
Arless

Low Bow Study
Anch. Times Nov 11, 1979

Committee Hearing

Dear Editor:

We hear people complain about paying state tax that is being spent on our Senators and Representatives in making trips under the disguise of receiving input from out-lying areas and I for one would like to go on record to say, "Finally we got some one to listen to us."

October 27 six members of the Joint Senate and House Community and Regional Affairs Committee came to Glennallen and held a meeting on a local government study and they made it plain that they were out here to find out what we want in the way of government, not what we are going to get. Now that's not saying that we will get what we asked for as the rest of the Senate and House members will vote on this committee's recommendations too, but they did do a good job of listening to every one that wanted to speak and I feel that for once some of our tax money was put to good use and whole heartedly approve of the money it took this committee to go

to the rural areas and listen to what the people in the bush want.

Our tax money being spent for these trips make a lot more sense to me than being used for trips to London!

Marge Brittain
Kenny Lake Via
Copper Center

The Anchorage Times welcomes letters from its readers on issues of the day. Letters must be exclusively addressed to the Anchorage Times and should be kept as brief as possible. All letters are subject to condensation. They must include signature, telephone number and valid mailing address. The telephone number is for verification purposes and will not be printed.

~~11-29-79~~ ~~11-29-79~~

Delta Project

~~Page 1~~

Bob Palmer's Copy



THE DELTA AGRICULTURAL DEVELOPMENT PROJECT

JANUARY 15, 1979

W. I. PALMER
SPECIAL PROJECTS OFFICE
OFFICE OF THE GOVERNOR

THE DELTA AGRICULTURAL DEVELOPMENT PROJECT

C O N T E N T S

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THE DELTA AGRICULTURAL DEVELOPMENT PROJECT:

A SUMMARY

The Delta Agricultural Development Project originated with recommendations from two highly respected agricultural economists. Dr. J. Edwin Faris of Clemson University and Dr. R. J. Hildreth of the Farm Foundation in Chicago reported to the Federal-State Land Use Planning Commission in 1975-1976, that commercial-scale production of small grains in interior Alaska represented sufficient potential to warrant a demonstration project of at least 50,000 acres. Local demands would receive first priority, with a large surplus remaining to be sold on the world market. A smaller acreage could not justify the infrastructure requirements needed for grain production, storage, marketing and transportation.

Governor Hammond in February, 1976, instructed Bob Palmer, Special Projects Coordinator, Office of the Governor, to investigate and, if feasible, to draft a proposal for implementation of a 50,000-acre project. This was accomplished with the assistance of a group of approximately 25 individuals representing the best agricultural expertise available in Alaska.

Governor Hammond requested and received from the 1977 Legislature an appropriation of \$400,000 to conduct environmental baseline studies and cost effectiveness tests on

various methods of clearing the small timber on the 50,000-acre tract. Those tests indicated that a new "shear and roll" technique offered considerable advantage over customary clearing methods.

Governor Hammond dispatched an initial agricultural trade delegation to the Orient in October of 1977 with very positive results. Legislation was then submitted by Governor Hammond and approved by the Legislature in 1978 to fund the first phase of the Delta Agricultural Development Project. This appropriation included \$45/acre for the first phase of the clearing of the land.

Requests for applications were received from approximately 300 Alaskans and approximately 109 were deemed qualified for the disposal by lottery. Farmers were selected by lottery on August 5, 1978. The farms have been sold to those farmers and 21 of the 22 have signed contracts with the State to clear their own land. They have become bonafide contractors and will be paid for the clearing on a performance basis at a rate of approximately \$150/acre, assuming the legislature approves a supplemental appropriation bill recently submitted by Governor Hammond to fund the final phase of the clearing work. The initial 1978 appropriation has been prorated at \$45/acre and some farmers have already fully utilized their share of those funds. One farmer has already cleared 500 acres of his farm and will plant at least that much of it this year.

The supplemental appropriation is essential at an early date in the session so that work can continue.

The supplemental appropriation now before the Legislature also contains road funds so that access roads can be in place prior to 1980.

A loan will soon be made for the construction of the first phase of the needed elevator facilities to be in operation by the private sector in the fall of 1980.

Marketing efforts continue with the objective of contracting for the production from 7,500 acres for sale to the State for test marketing in 1979. This is necessary to prove to the Asiatic markets that Alaska can indeed produce high-quality barley and rapeseed (for cooking oil). Funds requested for this work will revert to the General Fund when the grain is resold.

As soon as the private sector is prepared to market the agricultural production, State involvement in the process will cease.

Initial loans for land-clearing equipment have been made from the Small Business Loan Fund. Additional funding for farm equipment, buildings and operating costs will be needed from the Agriculture Revolving Loan Fund.

Legislation is being introduced to raise the capitalization ceiling on the Agriculture Loan Fund and also the ceilings on individual loans. The loan fund must then receive appropriations sufficient to meet the capital

requirements of the agricultural community unless other sources of financing can be arranged. At least three such potential sources are currently under investigation.

The level of expectation and enthusiasm for the success of the Delta Agricultural Development Project is very high among the farmer participants as well as the "Ad Hoc" committee that put it together. This success will mean livestock feed grains will be available to Alaskan farmers at world competitive prices rather than the present price of Seattle plus freight--which almost doubles the price (\$90 versus \$160/ton).

Alaskan production of beef, pork, dairy and poultry products should become much more profitable for farmers throughout the State. The resultt should be a very significant expansion of the livestock as well as grain industries in Alaskaa, with higher-quality food at somewhat lower prices for Alaskan consumers.

CONSIDERATION FOR DEVELOPMENT -
ALASKA'S AGRICULTURAL POTENTIAL

Report Prepared by

J. Edwin Faris and R. J. Hildreth*

for

The Federal-State Land Use Planning
Commission of Alaska

in cooperation with

Agricultural Experiment Station
School of Agriculture and Land Resources Management
University of Alaska

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The primary issue addressed in this report can be stated as follows -- Is there a legitimate reason or reasons for the Federal-State Land Use Planning Commission of Alaska to recommend that certain lands be designated or reserved for agricultural use.

At the current time, there does not appear to be widespread concern about reserving land in Alaska for agriculture. Failure to designate land for agriculture does not or would not constitute a problem in the minds of many individuals. However, a problem does exist when "what is" varies considerably from "what ought to be". If agriculture ought to be of considerable concern in planning for the future of Alaska, but isn't, then a problem does exist.

This report does not dwell on "what ought to be". This determination should be made through the political processes of Alaska. However, a number of considerations that affect "what ought to be" will be set forth. Also, this report will attempt to set forth some objective criterion for determining "what is" with respect to agricultural potential in Alaska. Conclusions of "what is" with respect to agricultural potential depend on the observations and extrapolations made from the observations.

For example, one set of observations indicates that Alaska's agriculture is decreasing in size and will, for all practical purposes, fade away. Trends based on the current agriculture support this viewpoint.

Another set of observations indicate that Alaska can produce high quality grains, forages, vegetables, meat animals,

etc., with respectable physical input-output relationships. There is considerable research (and a few commercial farms) that lend strong support to a most viable agricultural sector for Alaska.

The report will be organized as follows. After this introductory section, the authors set forth their perceptions of reality concerning Alaskan agriculture and food distribution systems. The following section contains a non-rigorous analysis of the demands for grain and the possibilities of producing grain in Alaska. The last section contains a few summary statements plus several statements why it could be in the national interest to have an agricultural industry in Alaska.

PERCEPTIONS OF REALITY-ALASKA'S AGRICULTURE AND FOOD DISTRIBUTION SYSTEM

In this section we set forth a number of our perceptions of reality concerning Alaska's agriculture and food distribution system. The perceptions tend to set the stage for our thinking about agriculture and the potential for agriculture in Alaska. Readers of this report may disagree with a number of our perceptions of reality. In fact, some disagreement is expected. However, this disagreement can be helpful in focusing on those areas of inquiry where the additional information is needed.

The perceptions take either the form of statements of fact or issues that need an answer. They are presented in six major categories to give some order to this section of the report. The perceptions of reality are given with sufficient detail to attempt a clear, but concise, presentation.

Perceptions Concerning Land

1. Land serves as a base for renewable and nonrenewable resource industries.

2. There will be competition between various renewable industries for the use of the land.

3. Land can be classified on a single use basis or a multiple use basis. A major question is which lands for which purposes?

4. Alaska has a scarcity of private land currently. Other than the native lands, the amount of privately owned land comprises an area less than the size of the District of Columbia. Agricultural development has been seriously hindered by this scarcity of land. Not only has there been little opportunity for agricultural expansion into large commercial farms, but rather land has been bid away from agricultural uses in favor of subdivision, settlement or homesites.

5. There appears to be a relatively strong demand by individuals for homesites and recreational sites of 5 to 160 acres. This demand could most likely be satisfied from land other than the large blocks of potential agricultural land. Land that has good potential for commercial agriculture could be primarily reserved for agricultural use.

6. Rather large quantities of land suitable for cereal grain and forage production are located in the interior along major rivers. The exact acreage is somewhat indeterminate, but it amounts to millions of acres. (The Soil Conservation Service estimate is 17 million acres of agricultural land in Alaska.)

7. Native corporations do or will control sizeable quantities of potential agricultural land. At some point in time, these corporations may choose to develop these lands for agricultural production or enter into an arrangement to have the lands developed. The decision processes would be more internalized than that of the state.

Perceptions Concerning the Development Process

1. Agriculture was the basic industry in the early development of the lower 48 states. Industrialization came later as agriculture moved through the nation especially the West. In Alaska, agriculture has not developed into a sufficient large or pervasive industry that could be called basic. Alaska can now be considered somewhat industrialized. Thus, agriculture would have to be added to the industrial base rather than vice versa. One would not expect agricultural development in Alaska to follow the general pattern experienced by most of the lower 48 states.

2. There is no large, strong political and economic power base for agriculture. There appears to be little opposition to agriculture per se. Thus there appears to be a more or less indifferent attitude toward agriculture. Opposition would be expected to occur when and if conflicts between the uses of land arise and agriculture is a contender.

3. The perceptions that most individuals have concerning the potential of agricultural development in Alaska is negative.

This perception would need to be changed if agriculture is to succeed in Alaska.

4. Agricultural development policy is interrelated with general economic development, e.g., growth policy, settlement policy, land and other resource policy.

5. The 40 to 160 acre homestead type of farming operation has not led to significant agricultural development. It is not likely to lead to significant development in the future. There may be some exceptions for very intensive crop production.

6. Alaska contains large land areas, so the creation of large commercial farms is possible at the start of the development process. The situation is more comparable to the development of large farms on the west side of California's San Joaquin Valley than the smaller farm units in the Columbia Basin Project of Washington State.

7. If there is an expansion of the agricultural output in Alaska, it will not come from the expansion of the current system. Not only would the type of farming apt to be different, but the farm operators would be expected to primarily come from the lower 48 states or from nonfarm employment in Alaska.

8. Agricultural development occurs in a stage or step-wise process. A strong and dependable grain and forage economy is the first step to a strong livestock economy. Thus, one would expect the grain and forage to be produced internally or be imported. For Alaska the latter does not appear to be economically feasible on a large scale. Vegetable production on a

As a response to the idea of grain and forage production in Alaska, the committee has decided to recommend that the grain and forage be imported.

large scale requires a rather sophisticated infrastructure. Such an infrastructure is most difficult to create from scratch.

9. There is a dilemma in many people's minds about agricultural development. The dilemma is: which comes first -- the land reservation or the proof of success. Agricultural lands need to be available before agricultural development can take place. But it may be necessary to demonstrate that agricultural production is economically viable before lands could or would be set aside for agriculture.

Perceptions Concerning Agricultural Output

1. Alaska has unique climate conditions when compared to the lower 48 states. This uniqueness means that it is extremely unlikely that agricultural production practices would be directly transferrable from the lower 48. At the minimum, adaptive research would be needed to make production technology applicable to Alaska's conditions. Systems of production, storage and marketing agricultural commodities would apt to differ from the lower 48 states. This is consistent with differences among these states; e.g., irrigation in the West and lower grain yields in the Southeast than in the Midwest.

2. The current and future state, national, and international needs for agricultural output will greatly influence the need for agricultural development.

3. The development of the agricultural industry in Alaska could lead to increases in Gross State Product and Gross National Product over time.

↑
as the MAP model
roughly predicts.

4. Limited data prevent a rigorous estimate of costs and benefits of the industry of agriculture as it could possibly exist in Alaska. First, there is really very little comparable agriculture in Alaska at the current time. Secondly, public and private costs of the necessary infrastructure are not known. Thirdly, the social costs of benefits need to be estimated.

5. There are a number of specialty crops, such as seed crops, where Alaska has a unique advantage over other production areas.

6. Very satisfactory yields of barley and oats have been attained on interior agricultural type soils. Yields of wheats tested recently are less certain. This land might need to be irrigated in some areas or summer fallowed in others to obtain satisfactory and dependable yields. It appears that the rivers could serve a most important role in the transportation network.

7. Heat losses from pipeline pumping stations or other industrial endeavors may in some cases be useful to agricultural production or processing. A controlled environment greenhouse production unit could probably be developed using the heat losses to produce vegetables, flowers, house plants, etc. The heat might also be used to help power a pelletization plant for agricultural forages.

8. The recreational horse population is a most serious competitor for the limited amount of hay and grain produced in Alaska. This drives up the cost of hay and grain which make it less profitable to produce milk and red meat animals. With a strong grain economy in Alaska, this distortion would not occur.

9. Agricultural research, although limited, indicates that the production potential is great. One way to determine if it would also be economically profitable is to promote agricultural development in an area based on the large, efficient-size farm concept.

Perceptions Concerning Infrastructure

1. Significant development of the agricultural potential in Alaska would absolutely require major public and private investments in the infrastructure. Without attempting to determine which investments are public and which are private (or perhaps both), some major infrastructure investments would need to be made in (a) water-based transportation facilities; (b) roads; (c) education; (d) agricultural research and extension; (e) storage, drying, and processing facilities; and (f) input supply firms such as those supplying fertilizer and insecticides.

2. It is possible that Alaska's farmers could have a competitive advantage in obtaining certain fertilizers and other petro chemicals in the future relative to a number of farming areas in the lower 48 states. This is contingent upon more of the petroleum being processed in Alaska.

3. Transportation rates may tend to work adversely against agriculture. The rates have been based on low volumes or historical patterns. With larger volumes and competitive pressures, the rate structures should change and become more favorable toward agricultural production and marketing. This includes both rail and water freight rates.

Note this in reference to the transportation rates.

4. The South Central and Kenai Peninsula areas have a reasonably adequate transportation network to the Anchorage market. These lands have potential for vegetable production on a small scale until a better infrastructure is developed. Grazing of cattle also could increase with increased slaughter capacity and marketing channels.

5. A large portion of Alaska's population is in, or adjacent to, urban centers. The well-developed food distribution system serves a large majority of the state's population. The food chain infrastructure is based on a food-import economy.

Perceptions Concerning the Environment

1. The side effects of various types of agricultural enterprises and organizations upon the environment need to be given attention.

2. If agriculture were to develop on a very large scale, it would undoubtedly affect the native culture and style of living in some areas. Some adjustments could be made to minimize these effects. Opposition to the development of agriculture in these areas may materialize.

3. There would be environmental effects resulting from agricultural production. The type and magnitude of these effects appear to be based more on value judgements than on analytical data. For example, a conflict may not exist between the use of land for agricultural purposes and for certain wildlife habitat. In fact, agricultural production could increase the number of some types of birds and decrease others or perhaps decrease the number of large fur-bearing animals.

Analysis

The analysis will concentrate on the possibilities of grain production in the interior of Alaska and the possibilities of selling this grain on the world market. If this is viable, then a livestock industry could develop. The livestock economy could develop in either the interior or the coastal range area or both. Without the grain based economy, it is extremely unlikely that a very large livestock economy would develop. But first, a brief discussion on vegetable production.

Vegetable production would not be expected to require large quantities of land in the near future, if ever. Although vegetable production is the more exotic and eye catching aspect of agricultural production, it will not be considered at great length in this report. This is not to deny that vegetable production could make a tremendous contribution to Alaska's agriculture. In fact, greenhouse agriculture, including flowers and plants produced in greenhouses, may be the most viable of Alaska's agriculture at the current time. It does appear that if this type of venture is profitable, it will grow to fill certain needs of Alaska's population. Perhaps it can be expanded considerably using state support and wasted energy from the pipeline pumping station. Yet it is doubtful if such a development would result in any large surpluses of vegetables and reduce food prices below Seattle plus transportation charges.

Larger quantities of vegetables than could be produced under controlled environmental conditions would be needed for a

processing industry. There are considerable economies associated with size that can accrue in processing plants. The length of the processing season is important. Storage and warehousing are important. A much more complex infrastructure is needed for vegetable production and marketing than for grain. Also, there are currently more technical and operational unknowns in the vegetable area than in the grain area. One company could profoundly affect the vegetable industry in Alaska. The vegetable industry first would not be the base upon which a very extensive agriculture could be built.

International Markets for Grain

The grain industry has a good world wide grain marketing system established. There are seven large grain companies in the United States that currently handle most of the grain in the lower 48 states -- especially that going into export markets. All that would be required in Alaska would be storage, drying, and loading facilities to move the grain into market channels.

Obviously, one of the first concerns in looking at expanded production is to look at the markets. It would not take very much production to satisfy the local market for grain and forage. Thus one would need to look at the international markets. However, it is necessary to remember that Alaska's grain exports would be constrained by any trade limitations that would be placed on grain from this nation; i.e., 1975 embargo on grain sales to the U.S.S.R.

The current stated policy of the USDA is a policy of full production. Food is the United States' number one trade item. Last year, more than one half of the grain that moved across international boundaries originated in the United States. Nearly one crop acre in three in the United States goes into export trade. Thus it means that there is a large export base in the lower 48 states where grain is a most important part of that base. Acreage increases of grain produced in Alaska can be more easily absorbed in a large and active market than in a small and stagnant market. North America exported 44 million tons more of grain in 1975 than in 1970. With grain yields of 1½ tons per acre, approximately 30 million acres would be required to produce this increase in grain exports. This is double all the land classified as agricultural land in Alaska.

Japan is the largest single market for United States farm goods. Eight million tons of feed grain are scheduled for import into Japan for each of the next three years. Hong Kong, Korea, Indonesia, Taiwan, and the Philippines are all developing nations that import United States produced food. Alaska is in a good locational position to compete in these markets.

Japan imports 30 percent of its total food supplies and 90 percent of its most vital grains. The Japanese Agricultural Ministry predicts a worldwide shortage of meat, milk, rice, soybeans, wheat and corn by 1985. Lester R. Brown, President of Worldwatch Institute and a recognized authority on the world hunger problem, states that worldwide food shortages could

become more or less chronic.^{1/} He also states that unless recent dependence patterns on United States grain supplies are altered, the United States will have to restrict grain exports (or ration them). Population growth in Asia, Africa, and Latin America have changed these areas from grain exporters to rather massive grain importers. Lester Brown is also pessimistic about expanding food production in the world. Alaska is not mentioned as a possible source of food supply.

A paper by Rojko and O'Brien examines three scenarios with respect to world grain needs in the year 2000.^{2/} Even under the most optimistic scenario with low population growth and large increases in agricultural productivity, there will be continued needs for large grain exports from the United States. In another scenario, with a less optimistic viewpoint (and probably a more realistic one), a very large import base of grain is required for the developing countries.

It appears that it may not be 20 to 30 years in the future before a strong market is available for feed grains. In fact, the strong market may be next year or even this year if there is a crop failure in one part of the world. The grain reserve is calculated to be only 31 days based on the daily worldwide consumption.

^{1/} Lester R. Brown, "The World Food Prospect," SCIENCE, 12 December, 1975, pp. 1053-1059.

^{2/} Rojko, Anthony S. and O'Brien, Patrick M., "Organizing Agriculture For the Year 2000." Paper presented to a Symposium on Population and Food, organized by the International Association of Agricultural Economists in cooperation with FAO, Rome, Italy, December 1-5, 1975.

A major biological breakthrough in one of the grains would, of course, change the worldwide picture.

Prices

Prices of feed grains such as barley are very sensitive. A short fall in one area can result in a rather large increase in the price and vice versa. No matter which price is selected, it will be incorrect for any one year. However, if a price is to be selected for analysis of future agricultural development in Alaska, it appears that a conservative price to use would be \$2.25 per bushel or \$94 per ton of barley grain at a deep water port. This is about the 1973 U. S. price and the current price but is considerably lower than the 1974 price.

Cost of Production

The cost of production cannot be well substantiated because there are few farm units like those assumed that would exist if grain farms were operating in the interior. There are two basic pieces of cost information. One is a set of costs prepared for different crops and types of farming areas in the lower 48 states. This report was prepared by ERS-USDA for the 1974 crop year.^{3/} It is not directly comparable with the costs that would exist in Alaska because (1) the cost for inputs per acre are expected to be higher in Alaska, (2) the yields are

^{3/} Costs of Producing Selected Crops in the United States-1974, prepared for the U. S. Senate Committee on Agriculture and Forestry, by ERS-USDA: U.S. Government Printing Office, Washington, D. C., January 8, 1976.

expected to be higher in Alaska which reduces per bushel costs, and (3) the farm units would probably be larger in Alaska which tends to reduce per unit costs.

The total direct costs in the Great Plains area was approximately \$33 per acre in 1974. The overhead and management costs amounted to another \$10 per acre for a total cost of about \$43 per acre excluding land costs or returns to land.

The second basic piece of information is a report prepared on the Clearwater-Big Delta area for grain-hay farms.^{4/} The budgets are based on 1972 price relationships. The costs per acre for the 720 acre nonirrigated farm are approximately \$71 per acre excluding land costs or returns to land. Even with this considerably higher cost of production per acre, the 720 acre non-irrigated farm returned a profit of \$51 per acre when the annual cost of land is estimated to be \$18 per acre. The major reason for this is a 50 bushel per acre barley yield in Alaska as compared to the 26 to 27 bushels per acre on the Great Plains farms.

The cost comparisons indicate that even if the per acre costs are almost twice as high in Alaska as in the Great Plains area that the cost per bushel is about the same or less in Alaska because of the much greater yields.

Initially, cost of inputs would be considerably greater in Alaska than in the lower 48 states. However, as an infrastructure

^{4/} Tanana Valley Irrigation Study Team, Irrigation Potentials-Tanana River Valley, Alaska, Supporting Report, February 1972.

developed, the input costs would undoubtedly decrease relative to input prices in the lower 48 states. Petroleum based products could even be lower in Alaska. Transportation rates for rail and water movement of agricultural commodities would deserve special attention. These rates may be determined on other than current or expected conditions and could discriminate against agricultural development.

If the price received for barley grain would be \$2.25 per bushel and if the yield averaged 50 bushels per acre, the gross revenue would be \$112.50 per acre. Thus with costs even twice as high as the 1974 costs in the Great Plains, it would leave $\$112.50 - \$86.00 = \$26.50$ per acre for profit and land payments.

It appears that irrigation is a means of increasing yields significantly. Most studies indicate that it is a profitable endeavor providing there is a relatively inexpensive method of obtaining and distributing the water. In fact, an available and abundant water supply may be one of Alaska's strong points in agricultural development. The reason is that it would decrease yield uncertainty resulting from inadequate moisture.

Summer fallow may need to be practiced in some marginal rainfall areas. Barley yields on land that is fallowed every other year appear to be in the range of 60 bushels per acre.

The above costs have excluded the cost of land clearing. Cost estimates for clearing land range from \$300 to \$500 per acre. Of course, a massive land clearing operation could have substantial economies of scale associated with it. There are

possibilities of selling the wood from the clearing operation which would cover part of the land development costs. There usually is considerable discussion of using the timber for pressed boards, etc., but such an operation seldom materializes. One difficulty may be that the economics of clearing land for agricultural production may conflict with the economics of clearing land for timber production.

Infrastructure for a Grain Economy

It has been explicitly and implicitly stated that agricultural development would require an infrastructure. It is obvious from above analysis that additional research is needed in terms of input-output relationships and costs. An effective extension system would also be needed. Research and Extension would need to be expanded in terms of soils, livestock, vegetable crops, and horticultural crops as well as in agricultural economics.

Transportation systems to economically move the inputs to farming areas and the grain to the markets would need to be developed. Storage and drying systems for grain would need to be built. An adequate acquisition and distribution system for inputs would also need to be developed and/or encouraged. This would include inputs such as seed and fertilizer and machinery and machinery parts.

In essence, a system would need to be developed for (1) getting inputs to farm units, (2) production at the farm unit, (3) transportation to and from the farm unit, (4) drying, (5) storage, and (6) marketing of the grain.

Other Considerations

Land settlement patterns may be very important. Perhaps a system might be worked out to have farmers live in areas set aside as townsites. Perhaps the buildings on farms would be of a minimal type and most of the year the farm family would live in a more urban area like Fairbanks. This would have advantages in that a large elementary and secondary education system would not have to be developed in the interior. There are a number of possible alternatives with respect to land settlement for the farm family as well as for the farmer.

There are also several alternatives with respect to land ownership and land development costs. Land could be purchased or leased for farming. The land would need to be cleared, and this could be done by the state government or by private entrepreneurs. An efficient land clearing operation by the state government would undoubtedly promote agricultural development more rapidly. All of this assumes that agricultural production indeed is profitable.

Agricultural development would result in creating a number of jobs and providing income for many outside of agricultural production. This is known as the multiplier effect. It was obvious that when the infrastructure was discussed that agricultural production would create additional jobs and income for transporters, input suppliers, builders, grain dryers, etc. Usually these are rather stable components in the state's economy. If processing of agricultural crops would prove feasible

and profitable, it would create many more jobs as it is a relatively labor-intensive operation.

SUMMARY AND JUDGEMENT STATEMENT

It appears that agricultural development could well be possible in Alaska on an economical basis. There are millions of acres of potential agricultural land. There are many unknowns concerning agricultural production -- including costs and product prices. Yet this is not unusual for existing agriculture, i.e., the weather has a tremendous effect worldwide.

Even though there may be some doubts about agriculture being able to return all costs of production, including land development costs, it still may be wise to seriously consider agricultural development. Agriculture is a renewable resource. Timber, fishing, and recreation are other renewable resources. When these alternatives are considered for certain lands in Alaska, it may be that agriculture has much to recommend for itself. In terms of an industry that would furnish a rather stable and continuing base for employment and income, agriculture appears quite good. Certainly one could ask himself if it might not be in the long-run national interest to have a renewable resource industry like agriculture in Alaska.

The analysis of markets, product prices, production costs, and yields indicated that agriculture may have a much greater potential than is commonly held to be the case in Alaska. It is suggested that about 50,000 acres of land be cleared and

begin to develop and demonstrate a system. Probably one grain elevator would be sufficient. Information on clearing costs by different types of clearing techniques could be obtained and used for further decisions. Continuous cropping vs. fallowing land could be investigated as could the returns to irrigation.

It would be assumed that the farm units are quite large -- perhaps two to three sections of land. Additional work could be done on developing better wheat varieties including winter wheat. Many other things would need to be investigated. Certainly, the possibility of erosion or pollution of the waterways would need to be kept at a minimum. This would require rather careful planning and constant checking during certain stages:

If grain farming were successful in the interior of Alaska, then it is most likely that livestock and other agricultural enterprises would develop.

In addition to grain farming, there are vegetable and greenhouse type production possibilities. These are not to be discounted and may be most important in Alaska's future. However, more special technology and infrastructure would be needed in a large expansion of this type of agriculture.

Alaska is one of the last frontiers that has a great quantity of uncommitted land and water. Both are necessary for agricultural production. With ingenuity it could be a most successful combination of resources.

One last judgement. Although it may appear that the possibilities for Alaska agricultural production would be better 20 or 30 years from now, this may not be the case. It may be that the potentials in the next five years may be very great.

Although agricultural production is not directly transferable from the lower 48 states, it is easier to make the necessary adaptations for Alaska's agriculture than for most foreign agriculture. Thus Alaska could, providing it would be profitable, increase agricultural output much more rapidly than many other agricultural areas. The research on grain crops done at the University of Alaska would be most helpful.

Because of the potential for success, the possible world food shortage, the need for more technical and pecuniary information and the time required for development, it is suggested that a large demonstration area be developed in the near future.

Because of the possible potential for agriculture in Alaska, it is suggested that efforts be made to designate a considerable portion of the land for agriculture. This land could be in multiple use categories that would be subject to reclassification if it were apparent that agricultural use would never be more than marginal at the best. It would appear that closing the option for agricultural development of such lands in Alaska would not be wise from the point of view of the citizens of Alaska and the United States.

OVERVIEW OF THE
DELTA BARLEY PROJECT PROPOSAL

In accord with his personal belief and the oft-expressed view of many Alaskans that substantial amounts of our non-renewable resource wealth must be invested in renewable resource industries, and as a result of the Hildreth-Faris Report to the Federal-State Land Use Planning Commission, Governor Hammond initiated the investigation of the feasibility of a demonstration project for the production on a commercial volume basis of small grains in Interior Alaska.

Dr. R. J. Hildreth, an agricultural economist from the Farm Foundation in Chicago, and Dr. J. Edwin Faris, a professor of agricultural economics from Clemson University in North Carolina, had earlier been commissioned by the Federal-State Land Use Planning Commission to make a preliminary analysis of the economic feasibility of small grain production in Alaska. Their report said in essence that to become feasible, the grain would have to be produced at a competitive price to meet conditions and standards, both for quality and quantity on the world export market and that insufficient demand existed within Alaska to provide the market necessary for economical production. They

stated, however, that from a technical basis, previous research indicated that barley was well adapted to conditions in a number of places in Alaska, that costs and yields were such that it appeared feasible to produce for the export market, and that while costs of producing an acre of barley in Interior Alaska were approaching 200 percent of similar costs in Nebraska, yields were more than twice those of Nebraska, and quality was better.

In summation, they concluded that while commercial barley production appeared to be technically and economically feasible, it will require a demonstration trial of at least 50,000 acres to support the elevator and other infrastructure necessary for such a project as an on-going business and to prove the validity of their conclusion.

Small grain is the foundation of agriculture in many places throughout the world. Once a small-grain base has been established, then numerous other agricultural opportunities become much more feasible. Probably a greater demand exists within Alaska for barley than any other of the small grains, and an export market in Asia exists for any surplus over the domestic need.

W. I. "Bob" Palmer, Special Projects Coordinator, Office of the Governor, was directed by Governor Hammond to update the 1974 data base used by the Hildreth-Faris team, analyse the results thereof, and develop a proposal for Governor Hammond's consideration. To accomplish those

objectives, approximately twenty-five Alaskans with a wide range of agricultural expertise were brought together to attempt to identify the most important questions and try to find accurate answers. This informal group met first on July 16, 1976, became known as the Delta Barley Project Ad Hoc Committee, and has continued--without any funding--to meet almost monthly since that time.

Delta Junction was selected as the site for analysis at the first meeting of the "Ad Hoc Committee". The primary reason for the selection of Delta Junction was the fact that the Alaska Division of Lands, along with the people of Delta Junction, their Citizens' Council, and agency representatives from other disciplines, had been working on a Delta Land Management Planning Study for almost two years. A great deal of work had already been accomplished and more than 50,000 acres had been identified as agricultural lands.

It has been recognized by the stockgrowers of South-central Alaska, including Kodiak, that the availability on a reliable basis of good-quality barley as a livestock feed in their enterprise at less than present prices, would be of material assistance in developing the beef industry in that part of Alaska. Present indications are that the availability of barley at world market price would mean a reduction in the retail price of Alaska-produced milk on the local market of at least five cents per half gallon to the consumer.

There seems little doubt that stable supplies of good-quality grain at reasonable prices would lead to early development of beef, pork and poultry industries in Interior Alaska and the enhancement of the present dairy industry at reduced cost to the Alaskan housewife of those commodities.

An additional but extremely important benefit is the wealth of information to be gained from such a demonstration project. This information would be directly utilized by the private sector in land-clearing practices, establishment of shelter belts, wind and water erosion control practices, cultural practices and larger farm units and the economies of size and scale. This vital information derived from such a demonstration project would be utilized by the people of Nenana if they wish to push forward with such a program and by the Native corporations in planning for the utilization of their hundreds of thousands, if not millions, of acres of suitable lands within their boundaries.

The total acreage of the demonstration project is approximately 60,000 acres. Approximately 26 miles of roads will be constructed. The individual tracts are about 3,000 acres in size. Agricultural rights in the land will be leased or sold to the operator at a price sufficient to repay most cost incurred by the State, including an agricultural rights value.

AGRICULTURAL RIGHTS

"Agricultural rights only" is a relatively new concept required by recent legislation. The purpose is to ensure that good agricultural lands remain available for food production.

It must be remembered that the true value of "agricultural rights" is a function of the soil fertility or production capability, crop suitability and proximity to market, as well as some other factors. Obviously, an acre of land of high fertility and ideal rainfall located on the outskirts of a large city, farmed intensively for high-value crops such as vegetables, berries, or even forage for a dairy herd, will have a much greater "agricultural rights" value than lands that are semi-arid, utilized for small grain production and located thousands of miles from the primary markets.

Disposing of the agricultural rights only is a legislative mandate and wise land use policy. It will reserve agricultural lands for agriculture. It will ensure that those who apply for lands under this program truly desire it for farming only. It will allow a taxing authority, to tax only the agricultural value, not subdivision or speculative value. If 1,200 to 1,500 acres are necessary on this relatively arid land to produce enough grain for an economic family unit, then summer fallowing and overall tracts of 2,600 to 3,000 acres will be necessary. This, of course, is

one of the things that we will learn from such a project.

The farmsteads may be located in clusters to minimize road maintenance costs, to minimize the cost of bringing electrical power to the farmsteads, and to, hopefully, improve the social atmosphere for the families of the farmers.

SHELTER BELTS

The individual farm boundaries will be laid out so that the natural contours of the land are utilized as well as possible and particularly so that shelter belts can be placed perpendicular to the prevailing winds, leaving long, narrow fields between the shelter belts to promote the most efficient operation of large-size machinery.

Problems of wind erosion should be substantially reduced by this practice. Water erosion should be negligible or nearly so. Because of the very small gradient involved in these lands, surface water run-off will be channeled so that existing or future barrow pits from road construction can be used for settling basins.

One hundred fifty-foot-wide leave strips will be maintained along all water courses, and the leave strips together with the shelter belts that will be constructed will substantially improve the habitat for a number of species of game animals and birds. Approximately 1,030

miles of edge habitat will be produced in this manner.

TEST CLEARING

Tests are presently underway to determine the most cost effective methods of clearing the moss and black spruce vegetation. "Shear and roll" with an angle blade, "single chaining", "double chaining", "shear and roll" with a V-blade, as well as the conventional clearing methods, are being compared for cost effectiveness. Preliminary results are quite encouraging. Present indications are that clearing costs will be substantially lower than for the conventional "straight blade" method and there will be no berm piles to contend with for the next 20 years.

The entire area will be cleared, leaving shelter belts along the individual farm perimeters, the roads surveyed and constructed, the farmsteads delineated, and electric power lines installed. A contractor will also do the initial breaking of the land so that when the farm operator comes on to the land, he will need only the kind of equipment and machinery that he would use in the normal farming process. He will not be required to purchase or arrange for very expensive breaking equipment which would be used only the one time. The costs of breaking, as well as the costs of clearing, will be returned by the farmer to the State through lease rental or sale price of the land.

Storage and transportation facilities will be key elements in the success of the project. Storage will be

of two kinds: on-farm and off-farm. Each farmer will probably have some farm storage and some drying capability on-farm. At some more centrally located spot, a grain elevator will be built with final drying and storage facilities. Transportation will be by private conveyance to the elevator. Transportation from the elevator to final destination will depend on the buyer. (The Alaska Farmers' Cooperative, presently in business in Delta Junction, has expressed strong interest in owning and operating the grain elevator.)

Containerized shipments of grain to the Orient are quite common and may be the most feasible for the Delta Junction area. Containers would be trucked about 80 miles to the railhead near Eielson, then carried by flatcar to tidewater. Extension of the railroad to Delta Junction or Canada would, of course, greatly facilitate grain shipments to tidewater.

SELECTION OF FARMERS

There are two basic objectives in the selection of farmers for this project. First, it is to ensure family farm units with qualified, experienced farmers who have a substantial equity in their operation. These factors are required to ensure that the project has the greatest possible chance of success.

Secondly, we want to give preference to Alaskan farmers.

Criteria for evaluation of applicants are being developed. All applicants will be screened, and those found eligible will be included in an "eligible pool". Farm tracts will then be acquired by lottery by those in the eligible pool. Any applicant found ineligible may appeal that finding and receive a review of his application.

STATE RESPONSIBILITIES

The following list includes most, if not all, of the areas of State involvement:

1. Initial land clearing and breaking;
2. Laying out of the farms;
3. Engineering and construction of access roads;
4. Arranging for the installation of three-phase power to the farmsteads (subsurface);
5. Expanding the farm loan program to assist in financing;
6. Selecting farmers;
7. Providing technical assistance in agronomy matters;
8. Providing marketing information and contacts;
9. Assisting in obtaining EDA grants for elevator, road construction and power installation;
10. Assisting in obtaining equipment, seed and fertilizer at lowest available prices;
11. Assisting in obtaining most reasonable tariff rates on transportation of product.

FUNDING

Present expectations:

1. Clearing and breaking costs would be paid for initially by a general fund or renewable resource fund appropriation. These costs would be repaid in full from land lease rental and sale proceeds.

2. Operating expenses. Annual loans from Farmers' Home Administration and State Agriculture Revolving Loan Fund. As agriculture becomes established, there would be a shift to commercial lenders.

3. Elevator storage and drying facilities may qualify for federal funding or may be financed by a loan to an operating authority (the Farmers' Co-op?).

4. Buildings and equipment. State and federal loan programs--25 percent, at least, farmer equity.

5. Power lines may also require front-end monies from the State or Federal Governments to be repaid by the user. However, it has now been determined that at least 18 REA co-ops nationwide are still receiving two percent money for the purpose of bringing electricity to farmers in sparsely settled regions. That approach should, we believe, be thoroughly, aggressively, and exhaustively attempted by Golden Valley Electric, the local electric power franchise, before any state funds are put into such a system.

An underlying principle is that at least 50,000 acres of production are necessary to produce the quantity needed

to economically support the grain elevator and other infrastructure associated with grain production. Only a small fraction of that production can be expected to be utilized within the State of Alaska; therefore, the overseas market for that portion of the production in excess of Alaska's needs is a must to make the whole project feasible.

Markets within the State included the livestock grazers in Southcentral and Kodiak, as well as feed processors in the Anchorage/Matanuska Valley area, and the existing users of those processed feeds, dairymen, poultry raisers, red meat producers and the horse owners of the State.

Of fundamental importance, however, is the existence of the overseas market that can be relied upon for all production that is in excess of State needs.

Governor Hammond dispatched a trade mission to the Orient on October 20, 1977, to determine the facts about Asian markets for Alaskan agricultural products. A report to the Governor on the results of that mission is attached.

Attachment ..

GOVERNOR HAMMOND'S TRADE MISSION TO THE ORIENT

The trade mission was composed of the following:

W. I. "Bob" Palmer	-	Governor's Office
Richard Eakins	-	Director, Division of Economic Enterprise, Department of Commerce
Dr. Wayne Thomas	-	Agricultural Economist, University of Alaska
Domonic Carney	-	Agricultural Specialist, Division of Economic Enterprise, Department of Commerce
James Hutchinson	-	Formerly: USDA - Asia Wheat Association - Asia Now: Private Consultant, Washington, D.C.

The purpose of the trade mission was to determine the market potentials in Japan, Korea and Taiwan for Alaska-produced barley and rapeseed that, hopefully, will be produced in 50,000-ton quantities in 1980-81 in the Delta Junction area; and to determine the facts pertaining to the marketing of reindeer horn in Hong Kong and Korea.

The trade mission began its work in Tokyo on October 21, 1977, and completed its work in Taiwan on November 16, 1977.

* * *

JAPAN:

Rapeseed is bought and sold without government controls. Barley, however, is completely regulated by the federal government. We met with all government officials involved in approval of barley imports and the trading companies who do the actual importing. Appendix A lists the names, titles and corporations of those with whom we met.

After our meetings in Tokyo, the trade mission traveled to Hokkaido for meetings with prefectural officials and agricultural scientists.

We were attempting to determine if Alaskan barley, with its high protein content, could command a premium price. Also, we were attempting to discover the feasibility of sending small samples of our barley and rapeseed for lab analysis now; test market 1,000 to 5,000 ton quantities of barley and rapeseed in 1978 and 1979; and be ready, hopefully, for up to 50,000 tons in 1980 from the Delta project.

The following data emerged from our meetings in Japan:

Japan imported approximately 1.7 million metric tons of barley last year, with 1.4 metric tons used for livestock feeds and .3 metric tons for human food, including malting barley for beer.

Nearly all barley imports come from British Columbia and Australia.

The Japanese are quite interested in additional imports from the United States and also want to broaden their sources of supply of barley.

The demand for barley in Japan is expected to increase in the years ahead as Japan continues its shift from fish to a red meat diet and enlarges its livestock industry accordingly. Also, domestic production of barley is decreasing as more land goes into rice in response to the Japanese government's support price of \$1100/ton on rice. (This is also reducing the domestic production of rapeseed and increasing the demand for imports.)

In our Hokkaido meetings, we found Dr. Oohara, Director, Dairy Research Institute, very interested in our high protein barley and willing to pay a premium for such barley.

In conclusion, concerning barley markets in Japan:

1. We received definite approval from Food Agency and trading company officials for the importation of Alaskan barley as long as the barley meets USDA standards for quality and is competitive in price.
2. High protein barley from Alaska can be sold at a premium over the world market price.
3. If existing farmers in Alaska are willing to produce barley for the Japanese market in 1978, the Japanese stand ready to purchase at tidewater in Alaska.
4. It is extremely important that a high-quality product be produced and maintained for this test marketing.

5. Meetings with Alaskan farmers must be held in the very near future to determine their interest and willingness to produce in 1978. Since there are no specialized storage, transportation or loading facilities in place in Alaska, costs for these functions will be much higher than in the future. A major question exists then: Are the farmers willing to produce for this test market if they must stand the burden of these unusual costs? If not, is the State willing to assist as it did with the Small Grains Incentive Act some years ago?

Rapeseed Market in Japan

Rapeseed oil has been used in Japanese households as a basic cooking oil for some 300 years. It is not controlled by the government and is desired by the trading companies. We could sell many thousands of tons in Japan immediately, assuming proper quality and competitive prices. Main production comes from British Columbia. Soil and climatic requirements are much the same as for barley. Yields in Delta Junction tests are approximately twice those of British Columbia. Rape fits well with barley in a crop rotation and appears to be even more economically feasible than barley.

Buckwheat Potential

Mitsubishi asked for a second meeting with us to discuss their need for buckwheat. Again an immediate market exists for thousands of tons annually. The buckwheat requires similar climatic conditions as barley and rape and can be grown on a poorer soil. We were not aware of any production in Alaska. We therefore asked for and received a sizable sample in Hokkaido for test growing by the University of Alaska in Delta Junction and Fairbanks.

Since returning from Asia I have discussed buckwheat production with Barney Hollembaek of the Matanuska Valley and Doug McClain of Delta Junction. Each stated that he had been producing buckwheat for years and that yields were approximately the same as of barley.

Since the economic analysis of the Delta Junction project was based on producing only barley at a market price of approximately \$100/ton, the very exciting potential of adding buckwheat to the crop rotation at \$240-\$300 per ton is obvious!

Grass Seeds

During our talks in Hokkaido, Dr. Oohara and Mr. Nikura, President of Snow Brand Seeds, Inc., asked us about the possibility of Alaskan farmers producing grass seeds for the Japanese farmers. Thousands of tons are imported annually. Apparently, all present sources of

seed are infested with a specific disease. Alaska-produced seed is free of that disease and therefore highly desirable.

I advised them that costs of seed production may be twice that of existing sources. Dr. Oohara and President Nikura expressed a willingness to purchase at that higher price. These crops also would appear to fit in well with a barley/rape/buckwheat rotation.

Peatmoss - (The Possibility of a New Industry)

An additional special meeting in Japan was requested of us to discuss the possibility of purchasing peatmoss in Alaska. Present supplies come from Hokkaido, British Columbia and West Germany. Hokkaido sources are becoming unavailable. Supplies coming from overseas have extremely high freight costs since they contain 65 percent moisture.

Research in Japan over a number of years has resulted in a process in which the peatmoss is separated into at least three components. One is sprayed with a liquid nutrient and fed to livestock; a second is used for potting soil in plant production; a third is treated in such a manner that it can be produced in small sheets approximately one-fourth inch thick and eighteen inches square for soaking up oil from oil spills. This product is said to absorb ten times its own weight in oil (compared to two to three times for straw), yet absorb only one-tenth that much water.

Apparently large quantities of peatmoss are now being removed from the Anchorage area during site preparation for building construction. With the immense and very widespread deposits of peat in Alaska, it seems probable that deposits do exist which can be utilized in an environmentally safe manner. It also seems probable that the processing plant could be built here, if so desired by Alaskans.

Much concern has been expressed in the past about inadequate stocks of oil spill clean-up materials in the Cook Inlet-Valdez Arm areas. The product described above and a processing plant in Alaska may provide an answer. I believe the potential merits in-depth consideration.

Honey Production for Export

Still another potential market may exist, unexpected though it may be, for honey produced in Alaska. Importers in Japan asked us about such a possibility. Since returning to Alaska, I have been told that interior Alaska has an ideal progression of flowering plants for honey production and that very good production has been achieved in the past. Both rape and buckwheat are major honey-producing plants, as is fireweed. With commercial production of rape and buckwheat,

commercial production of honey--which not only is a very valuable product in itself, but also increases the production of the host crops through improved fertilization of the blossoms--may become a reality.

HONG KONG:

One purchaser of reindeer horn apparently has the majority of available horn production (Alaska's only agricultural product now being exported) under contract at approximately \$8 per pound. Recent purchases by other buyers at \$23 per pound have raised serious questions about "rip-offs" and renewal of the contract when it expires (in 1978, I believe). We met with a major horn importer--known to be reliable--and made plans for shipment of specimens to him for a valid third-party appraisal.

KOREA AND TAIWAN:

The team members are unanimous in their conclusion that the primary markets for Alaskan produced barley, rapeseed and buckwheat are in Japan. Markets for rapeseed and barley probably can be developed in Korea, and Taiwanese barley processors were quite excited when shown samples of a hulless, two-row barley produced by Doug McClain near Delta Junction. Still--considering the enthusiasm of the Japanese, the large number of Japanese vessels available for transportation, the health of the Japanese economy and the much higher prices prevailing in Japan--Korea and Taiwan markets would seem definitely to rank behind Japan.

* * *

In conclusion, it is accurate to state that ready markets exist in Japan for all the barley, rapeseed, buckwheat, and certain grass seeds Alaska can produce in the foreseeable future if quality and price are competitive with the world markets.

The extremely interesting potential for commercial honey production warrants further investigation, as does the potential for commercial utilization of Alaska's peat resource.

ALASKA GOVERNOR'S AGRICULTURAL TRADE MISSION
OCTOBER 21, 1977 - NOVEMBER 5, 1977

OCTOBER

21	Friday		Arrive Tokyo - Hotel Okura
22	Saturday		Rest
23	Sunday		Rest
24	Monday	10:00	Briefing by Western Wheat Associates, U.S.A.
		14:00 - 15:30	Ministry of Agriculture and Forestry Mr. Yutaka Yoshioka, International Affairs Advisor
		15:40 - 16:40	Food Agency - Key personnel
25	Tuesday	7:45	Breakfast briefing American Embassy at Hotel Okura - Rm Akatsuki, 10th fl.
		10:00 - 10:10	Courtesy Call Mr. Yoshihide Uchimura, Vice Minister, Ministry of Agriculture and Forestry
		10:15 - 10:25	Courtesy Call Mr. Mamoru Sawabe, Director General, Minister's Secretariate, Ministry of Agriculture and Forestry
		10:30 - 10:45	Mr. Seiji Mori, Director General, Structural Improvement Bureau
		10:50 - 11:00	Mr. Katsumi Sugiyama, Director General, Food Marketing Bureau
		16:30 - 16:35	Mr. Taichiro Ohkawara, Director General, Food Agency, Ministry of Agriculture and Forestry
		16:45 - 16:55	Mr. Akira Matsuura, Director, Ocean Fishing Department, Fishery Agency, Ministry of Agriculture and Forestry
			<u>OR</u>
			Mr. Hisao Katagiri, Chief, International Section, Ocean Fishery Department, Fishery Agency, MAF

OCTOBER

26 Wednesday 10:00

Japan Oil Seed Processors Association
Mr. Higashimori, Executive Director
(13-11, 3-chome, Nihonbashi, Chuoku,
Tokyo)

14:00

Meeting at Noky Building - Unicoop
Special Conference Room, 4th Floor
Zenno - Kuroishi, Livestock Products
Department
- Takahashi, Materials Imp. Sec.
Unicoop - Najo, Senior Executive
Director
- Hiraike, Manager, Grains &
Oil Department

27 Thursday 10:00 - 11:00

Mitsubishi Shoji - Miyatake

13:30 - 15:00

Sumitomo Shoji - Kimura

15:30 -

Marubeni Corporation - Matsumoto

28 Friday 10:00

C. Itoh - Mishima

14:00

Mitsui - Hirabayashi

15:30

Nissho Iwai - Koma

29 Saturday 10:35

Leave for Hokkaido JAL 507 - Noborihetsu

12:00

Lunch by Mayor of Chitose

Stay overnight

30 Sunday P.M.

Arrive Sapporo

Stay at Grand Hotel

31 Monday A.M.

Courtesy calls U.S. Consulate

P.M.

Hokkaido Government

Stay at Grand Hotel

NOVEMBER

1 Tuesday

Snow Brand Nursery

Reception

Stay Grand Hotel

2 Wednesday 10:00

Return to Tokyo by JAL 504

3 Thursday

HOLIDAY - Trip on Bullet Train to Nagoya
and return if interested

4 Friday

Follow-up meetings (if necessary)

5 Saturday

Leave for Seoul

S A Y O N A R A !

Addendum
GOVERNOR HAMMOND'S TRADE MISSION TO THE ORIENT

KOREA:

There are two perhaps major opportunities that I did not discuss in my original report.

Korea is trying to rapidly expand its livestock industry. (One ad in the Seoul paper, for instance, requested bids for 2,300 Holstein dairy heifers for import into Korea.) Yet nearly all their land that can be cultivated is already in agricultural production. We discussed with them the possibility of our producing forage "cubes" for a livestock roughage fuel--somewhat similar to alfalfa pellets that are widely marketed at the present time.

These cubes would be produced from the whole barley plant, harvested while still green and while the grain was in the "soft-dough" stage. We would utilize, hopefully, the excess heat from Pump Station No. 9 to dehydrate the forage. It would thus be compressed into cubes or pellets for sale. Since utilization of agricultural land forage production is much less remunerative when land is in short supply, than the production of high-value crops such as rice and vegetables, a great potential may exist for Alaska to supply many tons of roughage feed for that expanding livestock industry in Korea.

A second potential is the production in Alaska of the dairy heifers for Korean dairy herds. It is quite possible that we can grow those heifers considerably cheaper than they can since so much roughage is required and they have so little land available for forage production.

Each of the above possibilities warrants additional investigation.

Fred Boness
Jeff Haines
Bob Waldrop

January 4, 1979

Thru: Bob Palmer

Nick Carney

Delta Summary

For your information, a summary of the various aspects of the Delta Project follows. If you need any details about any particular point, please let me know.

1. Marketing. Market development work for markets has proceeded far more rapidly than our most optimistic predictions. The attached pamphlet summarizes our first year's effort to develop an export market. The copy of the memo from Eakins summarizes this year's effort. We plan to retain the consulting firm of Agritrade International again this year and continue market development in the Orient. We also will be pursuing development of local markets. That effort will be headed by Bob Pollock.

2. Roads. Money is included in the supplementary appropriation bill for the roads which should allow construction by this fall. These roads are required for clearing and building construction by the farmers.

3. Clearing. As the Delta Project was originally envisioned, the state would do all the clearing on the entire 58,000 acres. We designed the clearing options to give the farmers an opportunity to clear their own lands if they could be competitive in cost, quality of work performed and time of completion.

Present status of the clearing is that 19 of the 22 farmers have elected to clear their own tracts under contract to the state. The cost of that clearing will be repaid over a 40-year period. The other 3 tract owners are still undecided.

4. Power. Efforts so far have been entirely oriented toward getting Glacier Valley Electric geared up to provide power to the sites. At this point it appears impractical for the state to provide this power. The success of that effort is still to be determined. If GVEA will not provide power, each farm will probably have its own self-contained unit.

5. Survey. The state's survey of the parcels is now completed.

6. Financing. We are behind schedule on establishing financing programs due principally to the foul-up in the legislature last year which resulted in nonpassage of the bills affecting

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a loan fund. Establishment of the Commercial Fisheries and Agricultural Development Bank is on schedule. Legislation to be introduced this session is now being drafted. We are also investigating possibilities of legislation for a guaranteed loan program.

7. Budget. A copy of the supplemental appropriation bill to be submitted for funding is attached. A copy of a memo to Ron Lind is also attached explaining the reasons why these varying amounts are needed before July 1. A five-year budget for the entire agricultural development effort will be assembled by March 1. This will detail the state's involvement in continued development of additional acres and the financial backing and support the state would be committed to. Also attached is an up-to-date summary of all budget items, expenditures and commitments from existing funds.

A breakdown of budget items from the money appropriated by SB 413 last year is:

- A. \$2.7 million for clearing is committed by contract. \$200,000 of that \$2.7 is reserved for administrative costs. The entire \$2.7 will be returned by farmer payments.
- B. Test Marketing: Approximately \$370,000 remain of the test marketing money transferred to Commerce and Economic Development. The money was used both to buy products for this year's test marketing (which yielded too little product to consummate an export sale) and to take preliminary steps within the last two months to develop a test marketing effort for next year. \$350,000 of those funds will be transferred to help finance the country's elevator - making a total of \$1,350,000 available to loan for that purpose.
- C. Survey: Money is spent and survey is completed.
- D. Administration: The administration money is being transferred from Natural Resources to the Office of the Governor for administration costs for the rest of the year.
- E. Environmental Base Line Studies: Money for these have been committed and in large measure spent.

January 4, 1979

F. Miscellaneous: Approximately half the miscellaneous money has been spent and of the remaining \$75,000, approximately \$30,000 is already committed. Negotiation and refinement of contracts for the remainder is underway.

In addition to state funding, \$62,500 was obtained through a grant from the Agricultural Marketing Service, U.S. Department of Agriculture, for use in market development. That money was used to help offset costs of the symposium, the contract for the market consultant, and the oriental marketing effort this year on a matching basis.

8. Administration. With the Governor's action of putting Bob Palmer officially in charge, we now have an organization to coordinate all aspects of the project. Until that time, this had been one of the project's biggest problems.

9. Transportation. A contract was signed early in the fall for a complete transportation and elevator study. Results on the country elevator are due January 12. Results of the remainder of the study for the transportation and port elevator are due March 15. These aspects are on schedule.

10. Fertilizer Study. Negotiations are in the final states for a contract to plan establishment of the fertilizer industry. The contractor's task will be to design a fertilizer handling, storage, purchasing, and resale system for both the project and the entire state, as well as purchase of fertilizer and chemicals for the test marketing planting for this spring.

11. Elevator Work. Using the results of the preliminary report from the transportation and facility study, we will proceed to make a loan for the major elevator to be installed at Delta Junction. This will entail appointment of a loan review committee to follow in selecting the loan recipient, determining the administrative procedure for awarding the loan and repayment of it, and arranging the mechanics of requesting and obtaining proposals from interested parties. Work is presently on schedule. This will be a major emphasis of both Bob Pollock and myself in the next six weeks.

12. Research. I will not attempt to recap all the research done historically on this project. At the present time we are in the second year of a research project designed to provide information on the most economical method and the economics of raising rapeseed, the first of a two-year program to investigate the qualities and advantages of Alaska's high protein

January 4, 1979

barley, the first of a two-year soil sampling program, the first of a multi-year investigation of pesticide residue, and preliminary negotiations are underway to begin feeding trials using Alaska high protein barley.

13. Pesticides and Insecticides. This is one area which is causing and will continue to cause substantial concern. One of our basic crops, rapeseed, requires spraying for control of weeds and insects. Unfortunately, the U.S. Department of Agriculture and the U.S. Environmental Protection Agency do not have established minimum standards for application of controlling chemicals. Although intense efforts are underway to correct this, we are unsure at this time how successful we will be.

14. Symposium. The preliminary agenda for the symposium, to be held March 22 and 23 in Fairbanks, is attached. Plans are proceeding on schedule.

15. Base Line Studies. All base line studies are on schedule. Responsibility for these rest with the Fairbanks District Office of the Division of Land and Water Resources.

not included
in this packet.

{ For your further information, I am also attaching a copy of a report to me from Bob Pollock which summarizes his particular activities in certain arenas.

NC:sw

Attachments

alaska grain & oilseed export marketing



an analysis &
suggested approach

State of Alaska
Department of Commerce & Economic Development
Division of Economic Enterprise
February 1978

alaska grain & oilseed export marketing

an analysis and
suggested approach

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February 1978

acknowledgments

The following people were helpful in the completion of this research report: James Hutchinson, Agritrade International Incorporated, Washington, D.C.; John Tansell and George Lander, Australian Barley Board, Adelaide, South Australia; Richard Pennel, North Pacific Grain Growers, Portland, Oregon; J. C. Brown, Canadian Wheat Board, Winnipeg, Manitoba; Yoshio Katsuyama, Alaska State Office, Tokyo; Les Reid, Alberta Department of Agriculture, Edmonton; Sam Hunter, Queensland Barley Board, Toowoomba; George Edwards, Tasmanian Department of Agriculture, Hobart; and John Kellock, New South Wales Barley Board, Sydney.

Funding for this research was provided by the Alaska Department of Commerce and Economic Development, Division of Economic Enterprise; and the Agricultural Experiment Station, University of Alaska, Fairbanks.

The authors of this publication are listed in alphabetical order on the title page. Each shares equal responsibility for the material presented.

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section 1

introduction

The development of an efficient and well-organized marketing system is a major requirement for a new agricultural development project near Delta Junction, Alaska. That system must be designed for present Alaskan conditions.

It is unlikely that the output from large-scale agricultural production can be absorbed within the State. We must turn our attention to export markets. There appears to be a substantial lack of knowledge in Alaska in all facets of the export of agricultural products. Therefore, the general objective of this report is to provide greater insight into export grain and oilseed marketing.

In March, 1977, a report entitled "Potential Barley Production in the Delta-Clearwater Area of Alaska," was submitted to the Governor of Alaska. This economic and agro-nomic assessment of the Delta agricultural project cites several apparent problems. Among them are: 1) limited information on possible export markets and 2) inadequate analysis of possible marketing organizations.

This report is an attempt to address those problems by achieving the following objectives:

- 1) To identify the major operational factors in prime export markets for Alaska farm products.
- 2) To discuss the major export marketing organizations available to Alaska farmers.
- 3) To recommend a marketing organization for the Delta project.

It is important to make one observation at the beginning of this study. There is little concern that prime foreign markets can absorb the small quantity of barley and rapeseed to be produced by the Delta project which will have little or no effect on world price. A sophisticated supply-demand analysis emphasizing elasticity is not as necessary now as a more descriptive presentation of the general workings of prime export markets and export marketing systems.

Information to complete these objectives comes from numerous sources. These include officials of the U.S. Department of Agriculture, and the governments of Japan, South Korea, Taiwan, Australia, New Zealand, and Canada. Information on marketing boards was obtained from the Canadian Wheat Board, Australian Barley Board, Queensland Barley Board, and New South Wales Barley Board. Various reports, identified in the bibliography, also serve as source material.

section 2 prime foreign markets

Japan

Barley

Barley imported by Japan is highly controlled by the government because part of the commodity is used directly for human food. The government must assure the consuming public of a constant, quality source of supply yet still maintain the Japanese farmers' levels of productiveness and competitiveness through support and tariff programs. Thus importation of barley into Japan is related, to a certain degree, to the issue of rice subsidy. The complexities of that issue are beyond the scope of this paper. This report will try to avoid, as much as possible, a detailed description of the political and/or economic reasons for the existence of a particular condition including effects of the rice subsidy on other grains. Instead it will deal with situations as they exist.

Japan consumes around 1,966,000 metric tons (M/T) of barley per year, 280,000 M/T of which are produced within the country. Local production is fairly constant. Of the remaining tonnage, about 900,000 M/T are purchased from Canada and about 700,000 from Australia. A very minor amount is purchased from the United States and other countries (Table 1). The amount of local production would increase measurably only if artificial prices were supported by the government, an unlikely occurrence.

Table 2 summarizes the history of FOB¹ barley prices over the last year. The Japanese standards for barley imports are very similar to the U.S. No. 2 western grade. A comparison is shown in Table 3.

¹Free-on-Board at seller's loading port.

Table 1

Import of Barley to Japan by Origin and Years¹
in Metric Tons

Origins	1974	1975	1976
For Food:			
U.S.A.	N.A.	6,000 (6,000)	14,000 (14,000)
Canada	28,000 (28,000) ²	28,000 (28,000)	28,000 (28,000)
Australia	329,400 (42,800)	311,342 (47,200)	284,742 (43,300)
TOTAL	357,400 (70,800)	345,342 (81,200)	326,742 (85,300)
For Feed:			
U.S.A.	79,000	31,500	67,784
Canada	724,142	913,318	858,272
Australia	401,300	265,200	433,868
TOTAL	1,204,442	1,210,018	1,359,924
Total Import:			
U.S.A.	79,000	37,500	81,784
Canada	752,142	941,318	886,272
Australia	730,700	576,542	718,610
GRAND TOTAL	1,561,842	1,555,360	1,686,666

N.A. - Not Available

¹Japanese fiscal.

²Figures in brackets are for brewery.

Source: Monthly reports of Japanese Importers Association.

Table 2

JAPAN BARLEY PRICE¹, APRIL TO OCTOBER 1977²

	U.S.A. (feed)	Canada (feed)	Canada (malting)	Australia (feed)	Australia (feed ³)	Australia (malting)
Apr. 13	112.40	111.00		110.25	115.25	
20	115.74	114.67			118.70	
27	115.74	116.79			119.56	
May 11	116.94	114.71		114.25	118.00	
18	117.94	114.94			119.50	
25	116.84	113.75				
June 1	113.53	113.62		112.75	116.50	
8	109.12	109.57			113.50	
15	104.71	102.95				
29	108.02	104.60		103.70	108.50	
July 6	105.62	105.04		105.00		
13	104.72	102.86		102.00		129.00
20	102.51	100.55				
27	102.51	101.22				
Aug. 3	98.10	92.10			95.50	120.00
10	98.10	90.44			94.00	
17	94.79	90.58				
25	93.70	89.51		88.75		
31	95.90	80.35			93.00	
Sept. 7	99.20	80.34				
14	98.10	90.85		90.80		
21	97.00	90.94	114.00			
Oct. 19	97.00	94.22		92.45	95.55	

¹Free-on-Board at seller's loading port - all prices in U.S. dollars.²Based on Japanese Food Agency's barley tenders.³For processed barley.

Source: Food Agency, Government of Japan.

Table 3

QUALITY SPECIFICATIONS FOR IMPORTED BARLEY TO JAPAN

	U.S. Maling Barley 2 Rowed, No. 2		U.S. Barley (for feed use) 2 Rowed, or Rowed, No. 2	
	FA ¹	USDA ²	FA ¹	USDA ²
Test Weight	62 kg/hl ³	59 lbs/bu	51 kg/hl	45 lbs/bu
Moisture	14.5	14.5	15.0	14.5
Dockage	1	0	2	-
Foreign Matter (TTL)	3	1.0	10	2.0
Frog	0.0	0.1	0.0	0.1
Smutty	0.2	0.2	0.2	0.2
Stones	6 ps	7 ps	10 ps	7 ps
Wild Barley Seed	2	-	-	-
Other Grains	2	-	-	-
Thin Barley	10	10.0	10	4.5
Damaged Kernel (TTL)	2	-	10	4.0
Heat-Damaged Kernel	0	0.2	0	0.3
Skinned & Broken Kernels	10	10.0	0	8.0
Other Class of Barley	-	-	-	-
incl. Black Barley (TTL)	10	-	-	-
Black Barley	1	1.0	-	8.0
Suitable Malting Types	-	95.0	-	-
Sound Barley	-	96.0	-	94.0
Wild Oats	-	2.0	-	-

¹Japanese Food Agency.²U.S. Department of Agriculture.³Kilograms per hectoliter (hl).

Source: Food Agency, Government of Japan.

Table 4

JAPANESE PRODUCTION, IMPORTS, INVENTORY AND CONSUMPTION OF BARLEY IN METRIC TONS

	1973	1974	1975	1976	1977 ¹
Beginning Stock	224,000	156,000	228,000	363,000	563,000
Domestic Production	55,000	62,000	60,000	55,000	79,000
Import	1,321,000	1,486,000	1,633,000	1,747,000	1,587,000
Domestic Consumption	1,444,000	1,476,000	1,558,000	1,602,000	1,606,000
End Stock	156,000	228,000	363,000	563,000	623,000

¹Estimated

Source: Food Agency, Government of Japan.

Of the 1,680,000 M/T imported, approximately 325,000 M/T, or 19%, are used by the malting industry, with the rest going for feed purposes (Table 1). Our interest here is mainly in investigating the feed barley portion of the market though the machinery for consummating any barley sale is the same.

The most interesting, unusual, and often confusing aspect of the barley business in Japan, is the procedure of the marketing structure itself. The process is controlled by the Japanese Food Agency, a section of the Ministry of Agriculture and Forestry. Imports must be approved as to volume, price, quality, seller, and purchaser.

The Food Agency is very concerned with price and quality, but equally important is the seller's long-range ability to be a consistent source of supply in volume. To maintain stability of supply, the government makes supply purchase commitments for predetermined quantities. It is apparent from the percentage of sales that there exists a basically agreed-upon percentage allotted to Australia and Canada. These producers' long history of competitively priced and consistent quality barley has developed into a quota of around 900,000 M/T of barley from Canada and 650,000 M/T from Australia. Barley purchase decisions are based upon tenders by trading firms to the Food Agency. Barley industry planning in both Australia and Canada is based on their respective quotas. These quotas are flexible enough to maintain the competitive market situation necessary to the buyer.²

Quota changes of any size take place only over a long period of time. The philosophy is to protect the existing trade relations, especially with the large suppliers. It is possible to obtain permission to supply a small quantity of barley as long as those trade relations are not jeopardized.

When large-scale production in Alaska,

or in any new region, is realized, marketing efforts can be severely hampered by an abrupt selling campaign. It might be disastrous to descend on agency personnel without first building confidence in ones capabilities and contacts with buyers and food agency personnel. This is confirmed by various sources in Japan.

One possible approach to entering the Japanese barley market is through capitalizing on some particular aspect of the product, such as high protein levels. To do this, however, it is incumbent upon the seller to present evidence of superiority. During our exploratory visit we encountered two strong indications of Japanese interest in high protein barley, both from end users. If the high-quality nature of Alaskan barley is emphasized certain price advantages may be forthcoming. However, the higher quality is not necessary because the Japanese Food Agency has given verbal approval for the sale of Alaskan barley to Japan if it is competitive in price and quality with barleys from other regions of the world. There is one advantage a new producer encounters—the desire of the Japanese government to see another large supplier competing in the market place.

The demand-and-supply picture for barley in Japan for the last five years is summarized in Table 4. Table 5 summarizes the projected demand for major agricultural products in Japan for 1985. The increase in barley consumption is forecasted to be small, but it is significant by Alaska standards. This consistent growth is a result of two factors: an increase in red meat and poultry production, and present and future increases in dairy production.

In the long range, there is one other aspect meriting comment. The impending restriction on the Japanese harvest of the seas will cause greater dependence on agriculture products, which will undoubtedly be reflected in greater demand for meat and barley.

²Shipments are usually in multiples of 7,000 M/T because of port and end product storage capacities.

Rapeseed

The rapeseed supply sources and market structure are decidedly different. Japanese consumption of rapeseed was 724,000 M/T in 1976. The amount of local production was minor, totaling only 6,000 M/T. Rapeseed, a product much in demand in Japan as a source of cooking oil, produces a finer oil than soybeans. Although the rape prices are sympathetic to soybean price fluctuations, rape oil users switch to other oils only if a wide price differential exists. In addition, there is a significant market for the chief by-product of rapeseed oil extraction, the meal. It is used as a livestock feed, for fertilizer, and as a soil builder in the horticultural industry.

Nearly all imports, totaling 718,000 M/T in 1976, came from Canada, the world's leading rapeseed exporter, and was nearly all of the low erucic acid type.³ A very minor volume of rape was imported from Europe. The Japanese demand for rapeseed is rising, but at a slower rate than barley. Demand for rapeseed oil is forecast at 307,000 M/T in 1980 and 380,000 M/T in 1985 by the Japanese government. At a 40% recovery rate, this equates to approximately 767,500 and 950,000 M/T of rapeseed in 1980 and 1985, respectively.

There is much less emphasis on rapeseed quality than barley quality, probably because of the need to rely on the Canadian supplier and also because of the lack of strict governmental control. It was stressed that in nearly all cases (the one exception will be dealt with later) the primary quality concern was with the percentage of erucic acid. Japanese processors would not accept rape with more than 2% acid and were most interested in the double zero types.⁴ The ideal level of acid, of course, is zero.

Table 5

Japan: Projections of Demand for Agricultural Projects for 1985

Commodity	Demand		Imports		Self-Sufficiency	
	1976	1985	1976	1985	1976	1985
	---(1,000 MT)---				-(%)--	
Rice	11,650	12,110	0	0	100	100
Wheat	6,049	5,899	5,827	5,346	4	9
Barley	1,965	2,502	1,756	1,612	11	36
Potatoes	5,035	4,927	0	0	100	100
Soybeans	3,664	5,007	3,554	4,580	3	9
Pulses	315	380	162	162	48	57
Peanuts	140	156	71	74	49	53
Vegetables	12,890	20,136	85	0	99	100
Fruit	6,476	10,612	338	1,823	95	83
Dairy Products	5,493	8,142	158	462	97	94
Meat	2,540	3,193	473	446	81	86
Eggs	2,035	2,206	85	1	96	100

Source: Statistics and Information Department, Japanese Ministry of Agriculture and Fisheries.

³A long-chain fatty acid which may be injurious to humans if taken in large quantities.

⁴Varieties having zero levels of erucic acids and glucosinolates.

The marketing procedure for rape is much less political than that for barley. Import of rape does not entail government approval because it is not consumed directly by humans. Sales are between the producer country's selling agency, whether it be private company, grain pool, or government agency, and one of the major rapeseed buying firms (Table 6).

Table 6

Rapeseed Imports into Japan by Japanese Trading Companies April 1, 1976 - March 31, 1977 in Metric Tons

C. Itoh	160,261	Michimen	21,875
Marubeni	110,774	Yuasa	9,291
Mitsui	106,230	Kanego	6,514
Nissho-Iwai	96,568	Saiwai	9,211
Mitsubishi	82,711	Tomen	2,635
Taiyo Bussan	50,919	Cthers	603
Sumitomo	44,277		
Toshoku	32,763	TOTAL	734,632

Source: U.S. Embassy, Japan.

Production of rape in Alaska and its subsequent sale in Japan could initiate a lowering price trend through competitive pricing. This trend will develop only when Alaska production reaches levels in excess of 50,000 M/T per year.⁵

Without question the most important factor to Alaska is the desire of the purchasing firms and the government to have a source of supply for rapeseed which will provide an alternative to reliance on Canada.

They are very concerned about depending solely on a single national supplier, and might make special concessions to get a new producer into the market.

One Japanese trading firm expresses a strong interest in a type of rapeseed high in erucic acid. The needed quantity of this variety is less than 50,000 M/T per year. Most of this type of rape is imported from the USSR and Peoples Republic of China, but the firm was having difficulty confirming a supply and expressed a willingness to sign preplanting contracts with growers for this product. Although this might well turn out to be a lucrative side industry, the small (by grain-trading standards) total volume means it will not be a major factor in establishing an Alaska agricultural industry.

Other interesting market possibilities exist: these include buckwheat, grass seed, forage, and dairy heifers.

Buckwheat

The possibilities for this crop vary according to one's source of information. Japan uses 70,000 M/T of buckwheat a year. The crop can be grown in Japan, but production is only 20,000 M/T/yr. and declining. Buckwheat sales are not controlled by the Food Agency which makes importation a relatively simple procedure. Prices ranged from \$230.00 to \$300.00/M/T C & F.⁶ Buckwheat is a free market commodity with a great deal of price fluctuation.

Oddly enough, when the subject of buckwheat is raised, trading firm reaction is mixed and widely varied. Some firms are very interested, even to the point of being willing to commit to a preplanting purchase

⁵Authors' estimate which may need revision after further study.

⁶Cost and freight delivered at destination but not unloaded.

agreement. Others are not at all interested and an official of one firm was negative, pointing out the extremely variable buck-wheat price situation.

Alaska must do some additional agronomic research on this crop as it appears there is a small, but persistent market for the grain. Whether it can be produced in Alaska to compete on the world market remains to be seen.

Grass Seed

A seedling nursery on Hokkaido expresses a strong interest in disease-free grass seed for pasture. Price is not the prime consideration. The interest is kindled by Alaska's ability to produce such an item. This could also eventually be a small, but lucrative, side industry.

Forage & Dairy Heifers

Planned large-scale expansion of Japan's dairy industry will put immense pressures on suppliers of forage and will require importation of replacement and new herd milking stock. Although Alaska might be able to supply dairy heifers, a far greater potential exists for the forage market. Production for export of cubed or dehydrated forage of various kinds is certainly a possibility needing further study.

Korea

Barley

Korean barley production last year was 1,759,000 M/T; they required no imports. Table 7 summarizes the Korean barley production and import data for the last 10 years.

Barley is imported by Korea only when her own crop falls short of expectations. This situation may materialize in 1978 due to poor weather conditions the previous winter and will probably recur sporadically in the future.

Table 7

Korean Barley Production and Imports¹

YEAR	PRODUCTION in Metric Tons	IMPORTS Tons	TOTAL
1965	1,943,000	-	1,943,000
1968	2,108,000	106,000	2,214,000
1969	2,094,000	67,000	2,161,000
1970	1,996,000	-	1,996,000
1971	1,875,000	-	1,875,000
1972	1,970,000	254,000	2,224,000
1973	1,721,000	350,000	2,141,000
1974	1,308,000	299,000	1,607,000
1975	1,672,000	354,000	2,026,000
1976	1,759,000	-	1,759,000
1977 ²	814,000	486,000	1,300,000

¹ Arrival Basis.

² Preliminary.

Source: U.S. Embassy, South Korea.

Barley is a winter grain in Korea grown on small plots in rotation with rice. It is the only crop which fits the rotational scheme; the farmer's only recourse to planting barley is to let the land lie fallow. As a planting incentive, the government artificially maintains the internal barley prices at nearly twice the world market price. Although many farmers consider this price too low, they still plant.