

## AGRICULTURE IN ALASKA ITS POTENTIAL FOR THE FUTURE

With food shortages developing as the result of increasing populations, and with the ever growing demand for food, accelerating pressures are being brought to bear throughout the world for the utilization of all lands with agricultural potential. All tillable land, even that which is considered marginal for agricultural purposes, must eventually be brought into productivity, and Alaska is one of the few remaining places where vast acreages of virgin land with high agricultural potential still exist. Some estimates rate as many as 15,500,000 acres of Alaska land as having agricultural potential.

Increasing numbers of societies are becoming affluent, and with improved knowledge of dietetics and sufficient money available to enable people to purchase quality food products, Alaska's potential for development of agricultural resources would appear to be limitless.

A tremendous diversity of agricultural activity is possible in Alaska. For instance, just a few of the currently undeveloped, or underdeveloped, facets of Alaska's agricultural potential are dairying, beef and sheep ranching as well as chicken ranching, reindeer/caribou and musk ox herding, swine herding, cereal and forage crop production, vegetable farming, the propagation of ornamentals and environmentals, bee keeping, the growing of native grass for turf, production of disease-free grain seed and seed potatoes, and the cropping of wild plants and berries.

Dairying has been carried on successfully in Alaska in several areas for many years. Dairy farms have existed for varying lengths of time in the Tanana and Matanuska Valleys and on the Kenai Peninsula. Dairy herds in the Matanuska and Tanana Valleys have consistently produced high quality milk products. Unquestionably, some of the other good farm lands in Alaska could, with the addition of some sort of controlled environment arrangement, overcome the problem of low winter productivity. An infusion of capital, to be used in building up highly productive dairy herds for northern regions through utilization of the knowledge of genetics obtained from the University of Alaska's cattle breeding program could help Alaska's dairying industry achieve its full

potential. The market for fresh milk products will increase as the State's population grows, and powdered and canned milk markets out of state could be developed with the building of processing plants — again requiring capital investment.

The high esteem in which Alaska's dairymen are held nationally was evidenced by the Farmers Home Administration's recent selection of Mr. and Mrs. Julian V. Fowler of Delta Junction as its National Farm Family of the year!

Some 10 million acres of land in Alaska could serve as range land for a developing beef cattle industry. Beef herds have existed on Kodiak Island since Russian settlement days. Fleeces from sheep raised in the Aleutian Islands are credited with being of superior quality, commanding premium prices. A large part of the state is suitable for either reindeer herding or for a closely managed market harvest of the caribou.

The University of Alaska's recent experiments with swine in the Tanana Valley have proven that hogs can be raised successfully in Alaska. Winter care of the animals could be handled in a controlled environment situation as is being done in the University of Alaska experiment.

Markets exist for Alaska-raised beef, lamb and pork within the State and the demand will grow as the State's population grows. Overseas markets are also a definite possibility.

In-state markets for meat and hides of reindeer and caribou already exist, and reindeer antlers, which are considered to be an aphrodisiac in the orient, find a ready market there. Additional slaughterhouse and packing plant facilities await investment money, and a market for Alaska meat and meat products overseas awaits development.

Chicken ranching and egg production in the state most certainly need to be carried on in a controlled environment, but the techniques have been developed, and a ready market for such products could be found in all centers of population in the

State, and export outside is a distinct possibility.

The experimental raising of musk oxen by the University of Alaska on its Fairbanks facility will provide clues to the domestication of this animal, native to the tundra, which could provide sustenance and income for bush villages. The size of the Nunivak Island herd testifies to the fact that this animal prospers in Alaska, and from its undercoat is produced qiviut, the finest and most precious wool in the world.

Grain crops, particularly barley, and to a lesser extent, oats, have been grown successfully in the state for nearly half a century. These grains are high in protein, and the yield for oats and barley in interior Alaska is high, 150 and 100 bushels per acre respectively. General prospects for increased grain production in Alaska are good. Grain produced here, however, is primarily used in the livestock industries, and expansion in these areas must occur before expansion of grain crops can take place. However, as with most facets of agricultural industry in Alaska, the potential for expansion of grain production in the state is good.

It is well-known to Alaskans that the flavor of most vegetables produced in Alaska is unsurpassed in comparison to those produced in the smaller states. Alaskan carrots, for example, excel in sweetness and succulence, and summer squash grown in Alaska maintains its firm and tender flesh even when it attains the not unusual length of 16 inches. A squash of the same length grown below the 49th parallel would be old, tough and seedy. Alaska's famous fifty-pound-plus cabbages are notably crisp and tender. During the growing period in circumpolar regions, long periods of light permit photosynthesis to continue for extended lengths of time and this, together with short periods of darkness and cool temperatures to limit respiration, no doubt account for the unusually high degree of sweetness and tenderness of Alaska grown produce.

Since Alaska vegetables are grown under virtually disease and insect free conditions, pesticides are unnecessary, and a market for these "organically grown" products could be developed in health food stores in Alaska and in the southern forty-eight as well. For those vegetables which cannot be successfully field-grown, the prospects for controlled environment agriculture (CEA) in Alaska are exciting.

CEA has been successfully carried on by the University of Alaska on its Fairbanks campus for several years, producing data used in setting up the totally controlled environment system now in the testing stage at Wildwood near Kenai. University of Alaska horticulturists are at present testing the system in which heat, humidity and the carbon dioxide necessary for photosynthesis are under complete control. Once the system has been adequately tested, in 18 months or so, the Kenai Natives Association, whose members are at present being trained to carry on the project, will be able to provide Alaska markets with excellent fresh salad vegetables grown to maturity in a remarkably short time, and at the same time provide their members with year-around jobs. The potential for this type of agriculture in other parts of Alaska is enormous.

Recently, interest has been developing throughout the country in the utilization of plant materials indigenous to and ecologically compatible with a particular geographic location. Alaska native plants have a built-in adjustment to our rigorous climate, and should be used extensively in home gardens and public landscaping. Regrettably, very few indigenous plant materials are commercially available and none is being commercially propagated. Therefore it would appear that commercial propagation and marketing of these plant materials to enhance the Alaskan "quality-of-life" would have considerable potential. Besides, the extremely hardy native germ plasm could provide genetic stocks for the development of hardy ornamentals for export.

A few of the other types of agricultural ventures awaiting development in Alaska are: honey production, with the abundant native flora providing ample forage for bee colonies; native grass turf for instant lawns, native grass seed for residential and commercial landscaping, and revegetation projects; domestication and increased production of Alaska's exquisite-tasting small native fruits such as raspberry, cranberry, blueberry, etc., and products made from these; disease-free seed potatoes from Alaska's fungal and viral disease-free farms; and seed potatoes from hardy frost-resistant varieties developed in Alaska.

At the present time, agriculture in Alaska is suffering chiefly from the lack of required capital invested in the marketing cooperatives, slaughter-houses and meat packing facilities, produce packing sheds, freezing and cold storage units, canneries and other

processing facilities needed to assure adequate high-quality food products for her growing population, and to enter successfully competitive national and world markets.

Alaska has the two resources necessary to develop a viable agricultural industry; enormous reserves of untapped energy sources, including those to produce fertilizer, and vast acreages suitable for many types of agriculture. Some of this acreage is now being diverted to other usage, which will remove it from future consideration as farm land. This situation could accelerate unless, in the future, the value of this land for food production is taken into consideration by land use planners and decision-makers.

### ALASKA'S ECONOMY IN APRIL

**Employment — Unemployment:** The effects of pipeline hiring were evident in April, as the unemployment rate declined from 14.3 the previous month to 13.0. Improving weather conditions also contributed to a quickening pace in outdoor occupations. Employment continued its upward

trend, increasing some 5,600 over what it had been in March, and exceeding by 7,300 the figure for a year ago. Unemployment dropped by 1,100 from the 18,500 March total, but exceeded the figure for the previous April by 1,900, a reflection of the increase in the State's job-seeking population. Obviously, many had failed to heed the warnings of both the State and industry and had come north expecting to find pipeline jobs, and were still waiting and hoping.

**Mining:** Even with some oil drilling still in abeyance to weather or legal impediments, mining activity showed an increase of 200 as other sectors of the industry resumed activities. In Nome, gold dredges are being repaired and prepared for use this season. The current shortages of essential metals on world markets could generate enough pressure to stimulate exploration and subsequent extraction of presently unexploited heavy metal deposits throughout the State. The interest of overseas investors in Alaska's vast deposits of soft coal continues high.

**Construction:** As was to be expected, employment in the construction industry surged forward with the melting of winter snows. Construction workers in excess of 7,000 were employed in April, topping by 1,000 the number employed in March. The beginning of haul road construction in various parts of the State took 1,100 more workers off the unemployment rolls than had been the case of April, 1973. It is anticipated that this industry will continue to employ increasing numbers as the construction season approaches its seasonal climax.

**Manufacturing:** With logging and mill operations in the southeastern portion of the State approaching a seasonal peak in activity, employment in the durable goods section of this industry increased to 3,100, a total which exceeded that of last year by 800 persons. The increased use of heavy equipment in pipeline camp and road construction likewise contributed to the increase in employment in the durable goods sector of the State's economy.

The resumption of shrimp fishing off Petersburg and Kodiak and halibut landings from pre-season Bering Sea fishing both contributed to an increase in food processing industry employment amounting to 600 over the March total. Further increases in employment will be occasioned by the openings of other fishing operations. Overall, 300 fewer persons were employed this April than in April of 1973.

ESTIMATED CIVILIAN LABOR FORCE IN ALASKA April 1974 <sup>1/</sup>

INDUSTRY	Changes From:				
	4-74	3-74	4-73	3-74	4-73
CIVILIAN LABOR FORCE.....	134,300	129,800	125,100	4,500	9,200
INVOLVED IN WORK STOPPAGES.....	0	0	0	0	0
TOTAL UNEMPLOYMENT.....	17,400	18,500	15,500	-1,100	1,900
Percent of Labor Force.....	13.0	14.3	12.4	-	-
TOTAL EMPLOYMENT <sup>2/</sup> .....	116,900	111,300	109,600	5,600	7,300
Nonagricultural Wage & Salary <sup>3/</sup> .....	111,500	106,600	104,200	4,900	7,300
Mining.....	2,100	1,900	2,000	200	100
Construction.....	7,100	5,100	6,050	1,000	1,100
Manufacturing.....	9,300	8,100	8,500	1,200	800
Durable Goods.....	3,800	3,200	2,900	600	900
Lumber, Wood Products.....	3,100	2,600	2,300	500	800
Other Durable Goods.....	700	600	600	100	100
Non Durable Goods.....	5,500	4,900	5,600	600	- 100
Food Processing.....	3,300	2,700	3,600	600	- 300
Other Non Durable Goods.....	2,200	2,200	2,000	0	200
Transp.-Comm. & Utilities.....	11,000	10,600	9,700	400	1,300
Trucking & Warehousing.....	1,800	1,700	1,400	100	400
Water Transportation.....	1,000	800	900	200	100
Air Transportation.....	3,300	3,200	3,000	100	300
Other Transp.-Comm. & Utilities..	4,900	4,900	4,400	0	500
Trade.....	18,500	18,200	17,900	300	1,200
Wholesale Trade.....	3,700	3,600	3,200	100	500
Retail Trade.....	14,800	14,600	14,100	200	700
General Merchandise & Appar.....	3,900	3,700	3,500	200	400
Food Stores.....	2,100	2,100	1,900	0	200
Eating & Drinking Places.....	3,500	3,300	3,400	0	100
Other Retail Trade.....	5,300	5,300	5,200	0	0
Finance-Insurance & Real Estate....	4,500	4,400	4,100	100	400
Service & Miscellaneous.....	16,600	15,900	15,500	700	1,100
Government <sup>4/</sup> .....	42,400	41,400	41,100	1,000	1,300
Federal.....	17,000	17,100	16,800	- 100	200
State.....	14,500	13,600	13,800	900	700
Local.....	10,900	10,700	10,500	200	400

<sup>1/</sup> Estimated in accordance with techniques recommended by U. S. Bureau of Labor Statistics.

<sup>2/</sup> Includes: domestics, nonagricultural self-employed and unpaid family workers, agricultural workers and adjustment for commuting, multiple job-holding and unpaid absences.

<sup>3/</sup> Prepared in cooperation with the U. S. Bureau of Labor Statistics.

<sup>4/</sup> Includes teachers in primary and secondary schools, and personnel employed by the University of Alaska.