

Land Settlement in the Maritimes

By W. SAXBY BLAIR

IT would almost seem that the prospective farmer is seriously handicapped in his efforts to establish a revenue producing enterprise. The difference between the cost of production and the market returns from the product sold is, at best, not great, and offers little encouragement. To state that farming cannot be followed to result in ultimate profit would be far from the truth, for it is evident that where care and good judgment have been exercised valuable farm holdings have been developed. The common tendency is to expect too much during the early development period rather than to consider farming as a long-time enterprise, the profits from which are cumulative.

It is not possible to develop a farm holding quickly, hence the need for patience and definite planning for future rather than for immediate gains. The cleared land available for settlement has in many cases, due to continuous cropping, been drained of some of the essential plant food elements, and until these are supplied profitable production is not possible. Such difficulties are not easily or quickly overcome except at considerable cost, which may involve at the start an outlay greater than the value of the crop. Even this difficulty is much less, however, than that encountered by the early settler who first had to remove the forest growth to develop tillable acres.

It is stated that very often land development undertakings have been hampered because the prices paid for the holdings were too high. In a few cases that may be so, but it seldom happens that such an assertion has any foundation in fact. Farm holdings are under-valued in most instances. This is not an obstacle preventing success, although it is convenient at times to suggest this as the cause of failure. It is difficult to place a proper value on farm lands;

soil type, drainage and protection of crops must be considered as well as situation. The latter has reference to transportation facilities, schools, church and the opportunity offered for co-operative activities, so generally misunderstood, and of potentially greater value than the land itself.

The facilities afforded by the soil survey expert in determining the physical properties of the soil, and his ability to determine fairly well the elements deficient in the soil, make it much easier than it has been in the past for the settler to build up his farm so that he can bring it into full production quickly, and at least expense. The Agronomist is able to set up a plan so that the cropping of the field can be undertaken in a way that will materially lessen the hazard that otherwise might be encountered. It is quite evident that the varying services provided by our governments have been developed to the point—where if their advice is followed, ultimate success is assured.

No amount of advice can make up for a lack of intelligent effort on the part of the individual in his farming work. In this respect the farm is not different from other undertakings. Many factors are involved in the successful handling of a farm. A few may be mentioned. It is important to provide for the removal of excess surface water so that it may run, with the least possible erosion of soil, from the fields in the early spring, and if this simple thing is not attended to, the result is late working of the land, late seeding, and consequent lessened crop yield, no matter how good the land, or how well it is tilled, or how much fertilizer is used. Permanent grass water courses developed to withstand erosion are necessary, and they should be so developed as to serve the purpose for many years. Obviously the services of a competent engineer should be considered, and these are available to assist in doing this very thing. There are many

EDITOR'S NOTE: W. S. Blair, D.Sc., the well known agricultural expert was up to 1938 Superintendent of the Dominion Experimental Farm at Kentville.

similar difficulties constantly arising which can by consistent well-directed effort, at moderate cost, be overcome, thus preventing loss hazard of great economic importance and often of sufficient size to render success doubtful. The development of an environment suitable for a crop is often as important as the supplying of plant food. This is amply evident on many of the dyke-land areas, where, because the drainage ditches have not been kept open, the crops are not nearly so good as they formerly were. It is evident from an analysis of the soil of these areas that they are capable of producing crops equal to those grown when they were first tilled. The plant food is present but the unfavorable environment for plants, due to excess water, makes profitable cropping impossible.

The introduction of vegetable matter to a soil improves the physical texture of sandy or open soils and lightens clay or compact soils. The tilth is improved in both cases and extremes of moisture and temperature modified. The leaching of plant food from light soils is prevented and its liberation is increased in heavy soils—air conditioning is improved and the aeration of the soil to promote bacterial development and root development is necessary for best growth. The rotation of crops with clover as a part of the rotation is advocated, for in this way the soil is filled deeply with roots, which, on their decay fill the soil with humus, thereby improving its physical properties and enriching it as well. To grow good clover it is necessary to use lime on most soils.

It is quite evident that the climate of the Maritimes is suitable for agriculture, and rarely are crop failures recorded as due to unfavourable weather conditions, if good cultural methods are followed. True, in certain seasons all climatic factors seem to combine to give more favourable yields than other years. This variation in yield from year to year is to be expected and is not greater here than in most countries; usually not so great. Statistics show the yield per acre of the principal farm crops to be as great as the average of the same crops in other places. Failure

is more likely to happen in attempting to grow crops designed to serve a prospective temporary market, or what might be termed a speculative type of farming, rather than a well planned, long-time, consistent type of farming, which ultimately will prove to be the most profitable.

To think that a short crop in some other country will give a great advantage above normal here is not likely to be correct—while this may have been possible in the past it is not likely to happen in the future. Facilities for transportation are such now that this cannot very well happen. It is a fact, however, that we are favourably located as compared with most countries, in that we have the advantage of short transportation to one of the best markets known for finished farm products of high quality. It is not possible to change the prevailing prices of such products on the world market, except by taking advantage of the preference given to those supplying a superior product brought about by improved methods of production.

Some say it is not possible to farm economically on the limited areas available for cropping on most farms. This cannot be true, for there are very few farms, if any, producing to their full capacity. Small holdings intelligently tilled must give as great returns for the labour involved as do large holdings. Not only is this the case but under such a plan a man can build up an enterprise that will enable him to provide a home for himself as satisfactory as that offered by other undertakings. It would seem to be better to assist in increasing small holdings than to encourage large-scale farming. A number of men equally established on their own farms must ultimately have a better chance in life than the same number employed in a temporary way doing farm work for others. The incentive is the cumulative advantages offered in the farm development scheme. True, at the start of the undertaking one may many times think the advantages are all in favour of those enjoying the income resulting from temporary employment, which may be much greater than that possible on the farm. It is because of the temporary nature of the

employment that those who go from the farm seeking better living conditions find themselves often without support in their declining years, when it is most needed. There should be a more definite effort made to assist farmers' sons to establish themselves on the land rather than to have them drift into channels where there is already a surplus of men looking for employment. The increased production of crops on the land increases rather than decreases labour requirements. The greater the production the more the labour required to assemble and transport it. The greater the employment on land the more the market for articles produced in industrial enterprises. Hence the reason why immigration should be encouraged. It is apparent that the introduction of new settlers in some parts of the country has had a decided setback in recent years because the undertaking has been unremunerative due to climatic hazards which are unknown in the Maritimes.

The thought prevails that if production above the present level is increased there will be more difficulty in marketing. It seems that until there is a surplus there is no way to effectively build up an export market. A continuity of supply of a uniform product is required as is evident in the case of apples. The price received by farmers for the product they sell locally is greater than that paid to farmers of other places who supply this same market, as handling charges and transportation have to be added to the original purchase price—which is that much to the local man's advantage.

The cost of the farm itself is only one part of the outlay necessary to make a success of it. It must be equipped with machinery, stock, utensils and various other things in order to make effective use of the land. This often is overlooked, but there is no use to hope to make a success without the proper equipment. It is better not to attempt it unless funds for equipment can be provided. It takes time to develop a saleable product and living costs must be met until such time as this is possible. The establishment costs for an average farm may be stated as follows: farm implements,

\$350.00; Two horses and harnesses, \$300.00; five cows, \$300.00; four pigs, \$200.00; chickens \$50.00; fertilizer and lime, \$150.00; seed, \$50.00; tools, \$25.00; repair materials, \$125.00; Total—\$1,350.00. To this must be added an amount to make it possible for the family to live and support the stock until the time when a revenue can be had from the farm to meet these requirements. Food and clothing must be purchased, also certain house utensils or furnishings, and it is not to be expected that these will average less than \$20.00 per month or \$240.00 for one year. To rear the baby chicks and develop 100 pullets and the hogs will require \$100.00 for feed. To this should be added \$110.00 for unforeseen difficulties, such as sickness or stock replacement and other miscellaneous things. This makes the total outlay for establishment, other than farm costs, \$1,800.00. These costs may vary considerably but if provision is not made for them it may work a decided hardship and discouragement at the start.

The revenue from land operations may fairly be considered on the basis of crop production, and the capacity of the operator to turn this into a marketable product. The capacity of the operator to adjust his crop to stock needs, or his stock to his crop possibilities, is of great importance and requires considerable careful thought. There is no purpose in developing crops that cannot be marketed and the cattle, hogs and poultry must be depended upon to turn the pasture, hay, fodder and grain into money. The value of these different crops per acre should be better understood, as otherwise we are not able to see where the revenue we expect is coming from. Information on this point is set forth below.

The value of good hay per acre, two tons at \$8.00, is \$16.00. The good cow will consume approximately two tons of prime quality hay in a year, above the pasture requirements. One acre of good oats, 50 bushels per acre at fifty cents is worth \$25.00—this with some high protein supplement will give the grain feed necessary for one productive cow for a year. Root or corn crops cost approximately \$80.00 per acre, and should

give under good cultural methods 20 tons or 40,000 pounds (800 bushels) of succulent product. The good cow can use of it four tons, 8,000 pounds, during the stable period. Good pasture is valued at \$2.00 per month per acre, or \$10.00 for five months' pasturage. One acre of good pasture will support a cow during the pasture period. If one has five cows the following crops should be planned on as necessary to feed them:

5 acres of hay	worth \$16.00 per acre..	\$ 80.00
5 " " grain	" " 25.00 " " ..	125.00
1 " " succulent crop	worth \$80.00	
	per acre.....	80.00
5 " " pasture,	\$2.00 per month for	
	5 mos.....	50.00
		<hr/>
	For 5 cows, value	\$335.00
	For 1 cow, value.....	67.00

The difficulty is to get these crops, which have no commercial value in their present state, turned into cattle products which the farmer can sell and realize the \$335.00 in cash produced from his 16 acres of well managed and well tilled land. Obviously this sum is not the equivalent of \$1.00 per day, even had he doubled this area, making 32 acres in similar crops, his cash return would be only \$670.00, and had he three times this area, 48 acres, his return would be \$1,005.00, and the crops sufficient only to support fifteen good cows.

Cows having capacity to consume the above feed and produce 6,000 pounds of 4 percent milk per year would make 240 pounds of butterfat which at 25 cents per pound would be \$60.00 per cow. The present price of butterfat is even below this price. It is estimated that to give even a small margin of profit above feed values a price of 30 cents per pound should be obtained. The skim-milk has a value of approximately 20 cents per 100 pounds or say \$12.00. The voidings from one cow approximate under good feeding conditions, 70 pounds per day of liquids and solids, which in 200 barn days would be seven tons, worth \$2.00 per ton—\$14.00. This gives for the return a total value of \$86.00, or \$19.00 above the value of the feed. The estimate of feed value includes horse and labour charges involved in its production, also seed and fertilizers.

The purpose of the above is not so much to point out the small margin between the value of the crops grown on the farm and the price recovered when turned into a dairy product, as it is to indicate the area it is necessary to cultivate to make a revenue sufficient to meet household and other charges that one must meet. Expansion above a certain point will demand additional labour and equipment, which very often the farmer cannot pay for and meet his other obligations as well. The farm offers particular advantages to settlers having boys who can assist in the farming undertakings. The poultry and hogs offer more direct sales with better returns and better opportunities for increased immediate revenue.

The raw milk at \$1.00 per 100 pounds is the equivalent of 2½ cents per quart. Butter from 4 percent milk at 25 cents is \$1.00 per 100 pounds. If butterfat was 30 cents per pound, \$1.20 per 100 pounds would be obtained, which would be \$12.00 per cow a year more—sufficient to overcome some of the present difficulties. Milk at 5 cents per quart is \$2.00 per 100 pounds, the price usually received is probably 18 cents per gallon at shipping point. This trade is limited, and an increase in the value of butterfat would be of material advantage in the development of dairying. If the price could be established at 30 cents the advantage would at once stabilize the dairy industry and encourage the long-time development plan so essential to the establishment of a more permanent agriculture.

Mention has not been made of the various crops such as potatoes, small fruits, large fruits and vegetables, the direct sales of which, while often somewhat limited, offer immediate cash returns much greater per acre of land than are possible from the regular farm crops, but which involve a much greater cost per acre for materials and labour. These crops are too often depended upon to give the cash returns necessary to finance the farm undertaking. The average returns per acre are usually around \$75.00 to \$100.00, and probably the limit for

the average farm is about two acres.

The primary idea of encouraging agricultural societies and assisting in varying ways by special grants, exhibitions and so on, is to secure, through better breeding, stock capable of using the farm crops to best advantage. It is not possible to use, economically, the crops that are grown if cows incapable of good production (of both milk and butterfat) are raised.

The tendency is to spend beyond the capacity of the farm to earn, particularly in the early years of development. It is for this reason that loan companies supplying money to farmers have developed a system whereby general farm planning must receive the sanction and direction of farm experts, who supervise the expenditures along the line it is known will ultimately permit the liquidation of the loans made. Even increased loans are necessary at times to ensure that the loans already made can earn up to their full capacity. This latter fact may escape the attention of one looking for immediate rather than permanent gains, and adjustment to this end is often necessary. Frequently it is stated that less acreage better tilled is best. Certain crops have their limitations even under the best tillage practices—should a man have stock requiring his full acreage for pasture, hay and succulent feed, he will have to buy his grain feed, and does so because it is profitable for him to do so. If a farmer requires 500 bushels of oats he cannot grow it on five acres. Even under good tillage methods approximately ten acres would be required and further he may be able to use his effort to better advantage on his pasture and hay lands, thus increasing their quality and production and thereby lessening the need for such an extensive grain feeding. The importation of feed is often more profitable than one may think, but the need for its purchase in such large volume can be lessened and more profit result from growing better pasture herbage, hay and fodder crops.

Poultry is a profitable undertaking, yet the hen is fed almost entirely on imported grain products. One hundred hens require four tons of such feed in a

year. To raise this would involve five acres of land in grain—if one had 1,000 hens fifty acres would be required—so successful poultry raising of from one to two thousand birds is being carried on on small areas sufficient only to provide range for the growing pullets. The purpose of this discussion is to indicate that under certain conditions the importation rather than the growing of some of the things necessary for feeding may be profitable. Exactness in the feeding of purchased grain feeds and the growing of better bulky forage crops are essential economic features of our farming activities.

It is necessary in order to carry through successfully any land development enterprise that the most rigid accounting should be provided. This to be effective should be based on a knowledge of the varying complicated factors involved in farming. As in many other undertakings having a narrow margin of profit, unwise or unnecessary expenditure must be avoided. To this end rates on capital invested must be at the lowest possible point.

Any system of land settlement should have the full co-operation of the established farmer. The opinion of the farmer should be in favour of such an undertaking but unfortunately in many cases this is not so. Public opinion should be strengthened, the farmer should have an opportunity to express his views so that the matter can be approached effectively. The problem must be faced squarely, and only the best thoughts possible can effectively aid in its solution.

It is quite apparent that much greater agricultural development than at present obtaining is possible. That farming can be better stabilized is evident if reasonably co-operative intelligence is practised. The advantages to the individual on the farm are greater than in most life employment undertakings—the advantages from co-operative community developments are greater on the farm than in any other enterprise. Farming offers advantages that no other calling can provide and insures one against privation, for under intelligent management and with reasonable labour effort food and protection are always maintained.