continued year after year the sod become impenetrable by air or water, and its roots exhaust the surface soil, which is always the richest. The trees soon become unfruitful, and unless manure is brought to the orchard to fertilize it, the tree will die before it has borne half the fruit it should have given under better treatment.

There is, however, one way to keep orchards in grass that does not lessen their productiveness. That is to have the trees so low that the shade of the branches with a very slight mulch of manure will keep the grass from growing too rampant and will also lessen the soil beneath so that it will be easily permeable by rains and melting snows. The low-trained orchard will also be better protected by snow than the orchard whose trunks are trained high with nothing near the ground to prevent the winter winds from sweeping the snow away. But the trunks of such trees should be banked up with earth in the fall so as to prevent mice from gnawing the bark and thus destroying the trees. Neither should grass or mulch be allowed to lie under the trees in winter, as this makes just the kind of harbor that mice like. If the limbs hang low some of them may be weighted down by snow; and the tender bark on the small branches will suffer. But this is better than leaving the mice to eat the bark around the trunk as they will often do, thus destroying it entirely. We have seen the same destructive work by mice where corn stooks were made in orchards, and left as winter came on near the trunks of young trees. A corn stook is a favorite hiding-place for mice in winter, as it furnishes both shelter and food. But mice have a strong liking for the sweet bark of young apple trees, and will not miss aay chance given them of getting it when the green food that they find abundant in summer cannot be had.—*Mass. Ploughman.*

Farm Bookkeeping*

By J. G. Cowie, Caledonia

Bookkeeping is a subject considered by some of little importance to farmers. It is all very well, they say, for the manufacturer or the business man to keep books, but for the ordinary farmer they are unnecessary, and they can get along very well without them.

It may be true that many men have made farming a success in the past without the slightest knowledge of bookkeeping, and even at the present time such work is not absolutely necessary. But there are many things not absolutely necessary which we find profitable, and I firmly believe that every farmer would find it both interesting and profitable to practice some simple system of bookkeeping.

I have been making inquiries among a good many farmers lately and have been amazed to find how many there are who keep no accounts whatever, and the only idea they have of the year's profits or losses is arrived at from the number of dollars they have in their pocket at its close or the bills which they cannot pay. A man tells me there is no money in farming, and I ask him what yearly income he derives from his farm, and he cannot tell me. The cry of hard times is sometimes raised and the poor farm is blamed for it when too often it is not the fault of the farm, but mismanagement or extravagance in some other direction.

Now bookkeeping will not make a poor man rich nor a lazy farmer industrious, but it will assist one in ascertaining where his chief sources of income are and what return he is getting for the money invested. But someone will say that in order to keep books we will need to go to college and acquire a business education. It is possible that a term spent in a business or agricultural college would be a paying investment to most of us, but my present purpose is not to advertise colleges, nor am I going to recommend any elaborate system of bookkeeping to farmers, for I well know that the most of us have neither the time nor the education for that. To keep a thorough and complete set of books by the double entry system, opening accounts with every field and with all classes of live stock would not only require considerable business education, but would also necessitate the weighing and measuring of all crops produced and all food consumed by different kinds of stock. With ninety-nine farmers out of one hundred such work is out of the question, but though we may not be able to go so far, there is a great deal any of us may do which for all practical purposes will prove almost as beneficial.

The first year I did any such work an ordinary diary was used, in which a verv brief record of each day's work was kept, unusual occurrences in the weather, and any business transactions. In pages ruled for the purpose the receipts from everything sold off the farm during the year were entered. At the end of the year these were classified, and I was able to tell the exact receipts from cows, hogs, sheep, poultry, grain, etc. The amounts were so much larger than I supposed that the next year I attempted to keep account of the expenditure to see what had become of it. Even if I never went further, I would consider the time well spent in continuing this from year to year, but in keeping the accounts I have made some additions and improvements. At the present time I use what is sometimes termed a special column journal ruled as shown in the sketch below:

RECEIPTS.

Month.	Day of month.	ARTICLE SOLD.	Dairy.	Hogs.	Poultry.	Sheep.	Grain.	Miscel.
Jan.	2	55 lbs. butter at 20c........	11 00					
"	"	14 doz. eggs @ 25c........			3 50			
"	5	64⅕ bush. wheat at 70c......					44 94	
"	9	50 lbs. butter at 20c........	10 00					
"	"	2 bags potatoes at 65c......						1 35

EXPENDITURE.

Date.			Farm Expen.	House Exp.	Clothing, etc.	Religious and Charitable.	Miscel.
Jan.	1	Expen. to market, 60c.: team shod, $1.00..	1 60				
"	"	Pr. Boots............			3 00		
"	"	Groceries, etc.........		2 40			
"	4	Insurance on buildings	10 60				
"	6	To Church treasurer...				10 00	

N.B.—In a properly ruled book the receipts and expenditure would be on opposite pages.

Any number of columns may be used and at the end of the year it is only the work of a few moments to get the total receipts from each department. It will readily be seen that one cannot in this way find the profits from different branches, because unless we have kept account of the actual cost of our cows, hogs or sheep for the year we cannot tell the actual gain. But if we desire to know the profits derived from the whole farm, it may be done without much difficulty.

At the beginning of the year I take stock. This is nothing more than placing a value upon the farm live

*A synopsis of an address prepared for Farmers' Institutes in Ontario, condensed for publication by the Superintendent.