

Dr. Maria Montessori

A Greenhouse at Small Cost.

Editor "The Farmer's Advocate":

I shall endeavor to show you how we have built a fair-sized greenhouse for ourselves at a very moderate expense. I believe every farmer and many living in our smaller towns would be glad to know they might grow vegetables, flowers, etc., for themselves and others every month in the year with no great initial outlay. Let me say here, we did all the work ourselves in leisure hours from business, and anyone capable of handling a shovel, hammer and saw can do the same. We excavated ground to the depth of one and one-half feet. Then, using earth wall for outside of trench and boards for inside and above ground, we erected a cement wall two and one-half feet high, or one foot above the ground level. This wall is eight inches thick, and we bedded a plank in the top of it.

I should have stated that the house is thirty-six feet long and twelve feet wide, extending north and south. The south end, east and west sides and entire top are glass carried in two and one-half inch sash. The north end is boarded up tight and battened.

Our side walls are twenty-four inches from top of bedded plank to eaves, just one light of glass. Eaves are two-by-four scantling carried only by the sash which holds the glass in side walls. The eaves in turn support the lower end of sash which carries the glass in roof. The upper end of roof sash is carried by a ridge plank two by six inches by thirty-six feet, supported at both ends, and twelve feet in from each end by two uprights. Perhaps I should state just here that our uprights are two-inch gas piping. About half way up we had holes bored through them, and stout irons run through and turned up somewhat. These iron arms serve to carry the inside end of one-inch piping used as brace arms for our roof sash. These brace arms are in turn screwed into T's on one-inch piping running full length of house, halfway from eaves to plank, thus serving as a strong but compact support to our roof. We next ran strong wires from one support over the top of ridgeboard to other support, making our centre braces carry all the load, and doing away with any more uprights. Our idea in using as little material as possible to carry roof, was to offer no impediment to sun's rays.

We had our sash made at local planing mill, and they are so constructed that a cap, made for the purpose, fits tightly over sash, thus holding edges of two rows of glass in place from eave to peak. Caps are put on with screws. First, lay two rows of glass then place cap in place, then another row of glass and cap, and so on down whole side of roof. Make the slope of the roof such that the glass will just fit thus, as the walls are just one light high, the only glass we have to cut is to get the angle of roof in the south end. Cutting the glass is very easy. The dealer from whom you buy it will either cut it or lend his glass-cutter. Get the first glass cut at the right angle, then it may be used as a pattern for the rest. All our glass is butted and no putty is used. If the regular greenhouse glass is procured this is quite practical. An occasional small crack will do no harm. The form of construction I have outlined is quite staunch, our house having withstood the two very severe storms of this summer. However, if the site is an exposed one, a person might use heavier sash to advantage. Inside we have a bench four feet wide running along east, south and west walls of house, raised two feet above ground. It is better not to let bench touch outside wall, as same is always cold. The lumber used in cement work comes in handy now for benches. Our stove is placed at the north end. Next we have a cement walk two feet wide running right around and enclosing in the centre a bed twenty-two by six feet. This bed is on the ground, but we have another of like dimensions raised above it about five feet. It is carried by uprights driven in the ground, and besides giving us a great deal more planting space it seems to have no bad effect on lower one. Make the beds about five to six inches deep on benches.

As to heating we are using the fire-box of an old wood furnace. We operated it through January and February of last year quite successfully. We had some rough wood from the farm, so that heating expenses were light. For any one who had to buy a heating outfit, I would suggest building a small cement furnace and using a coil and hot water piping. This, I believe, would make ideal heating, and could be very easily and cheaply constructed. In conclusion, our house cost us approximately one hundred and fifty dollars, allowing nothing for work and stove, and we grew, last year, seventeen thousand early tomato plants, which, at the rate we bought them the year before, namely, fifty dollars per thousand, would have cost us eight hundred and fifty dollars.

L. G. VAN VALKENBURG.

Lambton Co., Ont.

FARM BULLETIN.

Seed Exhibits for the Ottawa Winter Fair.

Farmers interested in buying or selling seed grain should remember that the Ottawa Winter Fair dates are January 20th to 23rd, inclusive, 1914, in Howick Hall, and plan to be there.

Those who have seed to sell should take advantage of the liberal prizes offered in the open classes and send along two-bushel samples of the same, as required by the prize list. These exhibits should be representative of the amounts for sale at home. It should be remembered that entries close on January 6th, and must be made to W. T. Jackson, Ottawa, the secretary of the fair. Prize lists may be obtained from him by writing him at either Carp, Ont., or Ottawa, Ont.

Exhibits of grain sent by freight have been entitled to free return in the past by getting a certificate from the secretary of the exhibition that they have been shown here, and I presume will apply this year. Those who send by freight should get their seed off fully a week before the 19th inst., more especially should they live in Western or New Ontario.

The Winter Fair Board have promised new and more commodious quarters for the seed exhibits this year. They will probably be found on the same floor as the poultry exhibits. Some educational exhibits may be looked for from the Seed Branch and Experimental Farm's Branch which will be worth seeing. Ask for the seed exhibits if you do not locate them easily, and for those in charge, as they will do their best to get buyer and seller together where possible.

Each exhibitor of seed should be careful to clean his seed well, see that it is well graded and free from noxious-weed seed impurities as far as possible. If you do not win a prize on your seed you can feel you were showing in good company and that you are making a worthy contribution to a very useful kind of show.



A Good Idea.

A New Day Dawns.

Editor "The Farmer's Advocate":

In reading the recent resume in your columns of the admirable way in which Dr. C. C. James has, with an evident free hand, worked out the special grant authorized by the Dominion Parliament for the advancement of agriculture, I could not but regard it as a most hopeful sign of increasingly broad conceptions of the place occupied by the work of the farmer in the national economy. The proper carrying out of the ten year's program will mean the diffusion, through a variety of channels, of a wide range of information, much of it in demonstration, that will tend to place the occupation upon a higher level. It should impress the people of cities and towns with the many-sidedness of farming as an occupation, and when they come to consider its purely business side, such as the disposal of products, transport and financing in which we are entitled to equitable conditions compared with other industries, it will be readily understood how large a field is just opening up before the statesmen of this country and which, I trust, shall be dealt with in no partizan spirit and untrammelled with cut-and-dried traditions. The plans of Dr. James and the Hon. Mr. Burrell, the Minister of Agriculture, mean improvement through more intelligent methods but not necessarily any marked or early increase in the agricultural output. The quality should certainly be

decidedly improved and also its value to consumers. The more intelligence we are able to apply to the operation of the farm the more likelihood is there of insistence that the returns are commensurate with the growing outlay involved. The consumer naturally thinks first of an increasing value of farm-produced foods in order to cheaper buying, but the man on the farm has equally, if not more, serious problems to consider. We shall strive to grow as large crops as our facilities in labor and capital will allow, but in the final summing up, which is to be kept clearly in sight from the beginning, it is the net return that must be considered and that deserves to be substantial and secured with reasonable comfort and opportunities for home improvements. The day of just hewing wood and drawing water has taken its departure. O. W. Middlesex Co., Ont.

Seed Growing Problems.

Editor "The Farmer's Advocate":

A great deal of attention is being given to the discussion of growing seed grain at our winter fairs, Farmers' Institutes and clubs as well as through the press. The Canadian Seed Growers' Association is taking the lead in this campaign for more and better seed grain. We are told how much grain is needed every spring to sow and how inadequate is the supply of good seed, and farmers everywhere are urged to take up this work. The benefits to the farmer are many. If he is growing some new variety he becomes interested in it, and determines to give it the very best chance he can. So the seedbed is given a little extra work in the spring, and he will probably cut the thistles and weeds out of the growing grain. If he gets a good crop neighbors will want seed from him for the next year's planting, and will be willing to pay more than market price for it. But to get the most benefit from growing pure seed grain (and most farmers want all that is coming to them) one should join the previously mentioned association. In order to comply with the rules more work is required of the member, but his registered seed

will command the top price and more than pay for all the trouble and extra work entailed.

However, one must bear in mind that there are many difficulties in the way of producing high-class seed grain. The farmer must be wide-awake and constantly on his guard. Weeds creep into his fields and from there the seeds get into the grain. The threshing machine coming from a neighboring farm where weeds are plentiful helps to contaminate the good seed with impurities.

A proper rotation and cultivation will do much to eliminate weeds, but the threshing machine problem is not so easily solved. It is

almost impossible to clean the machine of weed seeds. They stick to the screens and in every crack and corner, and will sift out all day long.

One solution of this problem is the private outfit. A small machine may be bought for \$150.00 to \$250.00 that will thresh from 30 to 60 bushels per hour. If electric power is available this makes an ideal outfit, even a gasoline or horsepower may be used with satisfactory results. But many farmers do not care to invest so much money, so we must look for some cheaper way of threshing our seed grain. If ten or fifteen farmers in a district would club and buy a regular outfit and hire a good man to run it and do only the threshing of those who have a share in the outfit, it would pay them. If these men would grow the same varieties, and keep their fields free of weeds, then the machine could go from farm to farm and grain would not be mixed with other varieties or full of weed seeds.

The farmer can keep his crop clean in the field, but unless he owns his own outfit or has a share in a neighborhood one, it is almost impossible to keep the grain pure and clean. If these difficulties can be overcome, then the farmer is going to reap the benefit in bigger crops and larger returns from the high-class seed sold. The work is interesting and has certainly proven to be profitable, so there is no reason why more farmers should not take up the work of producing seed grain. And to get the most out of it join the C. S. G. A. York Co., Ont. C. H. B.