

Australian Wheat.

Alderman Mechi writes as follows to the *Agricultural Gazette* :—

At various times I have sown among my own wheat crops portions of fine wheat sent to me for trial from Australia. In every case, the plants just before development have become blighted and worthless, although the home-grown wheats within a few inches of them came to perfection. This puzzled me extremely, seeing that the Australian samples were of the finest quality. I then remembered that our own wheat had, before being sown, been steeped in a solution of blue stone (sulphate of copper) which prevents blight, and that we had omitted to do this with the samples of Australian wheat, but we did steep the last sample, which is now in full ear without any symptom of blight or disease. It is fully ten days forwarder than our own wheat growing near it, although sown the same day.

As we hear of such ruinous losses by blight in our colonies, I think it most important that the steeping process should be there generally adopted, as it is by all good farmers in this country. We use 1 lb. of sulphate of copper to 10 quarts of water, the wheat is steeped in this for ten minutes, and well stirred, or the wheat is put on a floor and saturated with this solution. Whenever we have omitted to steep the grain, the crop has proved more or less blighted or smutty.

I am sorry that I did not leave a portion of the Australian wheat unsteeped; this should be done as a comparative test. The saving of a fortnight in time in late districts would be a considerable advantage. The wheat was sown the last week in November. It looks a promising well-developed crop. This wheat tillers rather less abundantly than home-grown, but would probably become more vigorous by acclimatisation.

Correspondence.

A SUSPECTED SWINDLE. S. C. Harrison, III. —We are making enquiries about the person you name, and, if we find him to be a swindler, we will publish the fact.

HORSE WITH SWELLING ON LEG. Subscriber, Mariposa. —Your enquiry came too late for insertion in its proper department. As far as we can tell, the treatment has been correct. Send us your name, and we will reply more fully by mail.

PROTECTING CABBAGE PLANTS. W. H. M., Upper Woods Harbor, N. S. —Winding paper around the stem of the cabbage plants, and leaving part above and part below ground, is an effectual remedy against the grub. Dusting with air s'a k-el lime or wood ashes will prevent the fly from attacking the leaves of turnips, etc.

POTATO-BLOSSOMS. A. D. R., North Wellington. We have heard that picking off the blossoms from growing potatoes increases the growth of the tubers, but never tried it, and therefore do not know whether it will do it. Suppose you try it by picking a row side by side with another which you leave unpicked, and let us know the result.

THE MOUSE-TRAP IN THE MARCH NUMBER.—George Duncan, St. Malachi. We do not see that the trap needs any explanation. The bait is placed in the centre and the mice are free to run in and out as they please. When they get to feel at home, plug the holes, carry trap and contents to a place where there will be a clear course and no favor, call the dogs or cats, and then let out the mice.

ROSE-BUG.—MACRODACTYLUS SUBSPINOSUS.—D. A. Purly, Nowbury, Ont. —The insect you send us in reply to our request in our last issue, is not the insect which does the sewing machine work on the grape-vine, specimens of which you previously sent us. The insects last sent are the *Macrodactylus subspinosus*, Rose-bug, which in the beetle state preys upon the grape vine. The eggs of this insect are laid in the ground and the larva mature there.

HEDGES.—Subscriber.—The fastest growing hedge-plant that will stand the climate is, undoubtedly, the willow, but the willow hedge is a delusion and a snare against which we caution our readers. We have seen a tolerably good willow hedge, but for one good one there are many that are nothing but an eyesore and a nuisance. Buckthorn is the best and hardiest hedge-plant that we know of. We will probably take up the subject of hedge-growing shortly.

Miscellaneous.

Giant Powder.

Dynamite, or giant-powder, may be transported by all ordinary means of conveyance in every climate and temperature without danger of explosion. Several European Governments allow it to pass as common freight. The secret of its safety lies in the fact that the absorbent is soft, compressible, and elastic, and is no more affected by a blow than is a cushion. It has been subjected to the severest tests by scientific men and experts of every sort, and has proved by its conduct that the only means of exploding it is by a large and powerful percussion-cap. In contact with fire it burns to ashes like saltpetre paper. A lot of 8,000 lbs. has been burned at once without exploding. It may be poured upon a red-hot plate, or a red-hot poker may be thrust into it; a box of it may be thrown upon rocks from any height, so that the box is shattered; heavy weights may be thrown upon it; it may be beaten with a sledge-hammer; it may be held in the hand and set on fire, and when half consumed be extinguished with water; all this may be done and the powder will refuse to explode.

There are two kinds of dynamite. One is composed of 75 per cent. of nitro-glycerine and 25 per cent. of infusorial earth. The other has much less nitro-glycerine, the deficiency being supplied by nitro, saltpetre and resin. The second is not so strong as the first, and is only half as costly. The substance has the look of dirty corn-meal. Its explosion does not take place like gunpowder, burning from point to point, but the entire mass, however large, bursts at once, as if the band that held it were cut and the recoil of each grain took place at the same instant. It shatters the hardest rock as if it were the most fragile of things, and rends wrought-iron and steel as if they were rag. The slightest charge of it in the heaviest rifle or cannon tears the gun into a thousand pieces. It is as good in water as out. If turned loose into a bore-hole filled with water it sinks to the bottom, is tampered by the water and explodes with full effect.

As dynamite contains nitro-glycerine, it is supposed to be dangerous to transport, yet it is in truth quite otherwise. Congress has made it a misdemeanor punishable by heavy fine or imprisonment to ship highly-inflammable or dangerously explosive substances without disclosing their character by labels on the boxes or vessels containing them. A late trial before a United States Court established the fact that dynamite cannot be reckoned one of these substances.

Marks on Trees.

An old surveyor sends Dr. Asa Gray some interesting observations on marks on trees. —For several years before the war I was the surveyor for Davidson County, Tenn., in which the City of Nashville is situated. A large part of my duty was running old lines established by former surveyors, numbers of which had been cut fifty to sixty years before. These lines were indicated by hatchet marks upon the trees, through, or near which, the lines ran. Three chops with the hatchet about 4 inches apart, breast high, was, and is, the recognised mark for surveyors' lines. So uniform were the marks given to the trees by the old surveyors that by practise in noting the position, depth, angle, width, and distance apart of the marks, I could generally tell what surveyor had run the line. Very old lines through bottom lands had often been surveyed on horse back, and in such cases, the marks would be found 7 or 8 feet from the ground.

It may be interesting to know that the most permanent marks are those in which the hatchet does not go through the bark. In such cases the marks were as plain and sharp after fifty years as when just made. If the sapwood was touched ever so little, the edges of the cut would widen and fresh bark would be made, and this being smoother than the old bark and surrounded by a sort of lip, the whole would, as the tree grew old, assimilate in appearance to the rest of the tree, so that only a practised eye could detect the mark at all. If the chops were very deep the bark between them would be thrown off by the tree, and all replaced by new bark, and present a blur, which, in time, would be very hard to recognize, and such a tree could only be proved to a jury (as it was often necessary to do), by cutting into the tree and exposing the chops or marks in the solid wood under the sap, and often under many layers of the tree wood. Law suits where lines were questioned have been decided by this method. I may here state that I have often known these layers to tally exactly

with the number of years since the survey was made, and thus carry the most convincing proof that the tree was marked at that time.

The point, however, in which the present interest lies is that among the many thousand marked trees I have examined I never new one in which the distance of the marks from the ground, or each other had varied from the general practice of surveyors. Many of them had been so marked in the presence of old settlers who accompanied me in the re-establishment of the lines, and I never knew of any change being spoken of in the appearance, except by being cut too deeply. Many of the marks were the subject of especial study to me; but I never met with or heard of marks that had grown up a tree or that had widened apart out of the surveyor's customary limit. In some instances the original level of the soil had been changed by being washed away, but this was only on hill-sides, and easily accounted for, and proved by other trees and circumstances.

The habit of bears of standing up against Beech trees and scratching them with their claws somewhat as cats do against table-legs is a case in point also. No bears have been found in Davidson County for the last fifty years, and I have had pointed out to me trees that had been scratched all round in this manner, and although the same trees would be marked by the climbing of the bear, yet the peculiar marks made by this playful scratching were never any more than the usual distance from the ground. I know a place near Nashville, where, about forty years ago, a Cedar-wood seat was put between two close growing trees by notching it into each one. The trees have grown quite large, and entirely round the ends of the board, but it is exactly the same height as when first placed. I also know where I cut my initials into the bark of a young Hackberry tree with those of a young lady; this was twenty-three years ago, and the marks are there at the same height. These last, however, are special instances, and only prove the habits of Beech, Elm, and Hackberry trees, while those of the surveyors' marks comprise all kinds of trees indigenous to this country, and extend through such periods of time as give very complete observation.

About Bricks.

Few materials for building are in more constant use than bricks. Even where stone is the principal article used in the composition of a building, bricks are wanted for linings, flues, furnaces, ovens, and a number of other purposes. The properties of bricks should vary according to the purposes to which they are to be applied. A brick intended for building should be so solid that it may be neatly cut, and baked at a temperature sufficiently high to prevent it being disintegrated by atmospheric influences. A good brick for an ordinary building will support a considerable weight without being crushed. It ought not to crumble in water nor to absorb too great a quantity of it. This question is tested by weighing the brick before and after immersion in water.

Earths are often found which, without preparation, are fit for the manufacture of bricks for building purposes. Indeed, the common yellow vegetable earth will generally answer. In the construction of furnaces, the bricks to be used ought to be such as will longest resist the ashes of the combustible.

Fire-bricks are made with plastic clay, containing neither gypsum, lime, or oxide of iron, which color bricks red and render them fusible. The clay is first washed to free it from the foreign substances which it contains. It is then reduced with cement of burnt clay, made expressly for the purpose, and powdered. Even the purest sand, mixed with clay, would not make infusible bricks.

Bricks are formed either with the hand or by manufacturing appliances. Two men with the hand can make from six to seven thousand bricks per day. They are burnt either with turf, coal, or wood, according to convenience, the latter being generally used in this country. The kilns are built almost entirely with the bricks intended to be burnt, the base of the kiln being the only part made of old bricks. A kiln contains about four hundred thousand bricks, and it requires about five days to burn them.

The Flemish process, by which the bricks are burnt with coal, is the most economical. The manufacture of bricks in St. Louis has assumed mammoth proportions, and they are becoming famous for their surpassing excellence, many persons preferring a front of them to one of stone. Milwaukee has a clay which gives a peculiar light-yellowish tint to the bricks made there, which, when judiciously contrasted with trimmings of dark colors, gives a very pleasing effect. —*Builders' Journal*.

REAL AND APPARENT DEATH.—A memoir has just been published by Dr. Angelo-Monteverdi on a simple method of distinguishing real from apparent death. The plan suggested consists in the subcutaneous injection of a small quantity of strong liquor ammonia. When injected into the living body, even during the last hours of life, ammonia causes the appearance of a spot of a deep red or purple colour, which forms more or less quickly according to the rapidity of the circulation. If the fluid be injected after death, no change in the color, or only a darkening of the natural color of the skin is produced.