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The Gardeners' Chronicle
December 7, for he says (vol. i., p. 274)—"The descent from the Talloing rise was very steep, and in some places almost precipitous, first through dense woods of Silver Fir, with Rhododendron Fal- coneri and Hodgsoni, then through Abies Brunoniaca and Yew to the region of Magnolias and Rhododendron arboreum and barbatum. One bunch of the former was in flower, making a gorgeous show." And he mentions it again and again, up till the end of May. It must be difficult to find a Himalayan winter climate at 8000 to 10,000 feet with that of our country, but correspondents of this paper might aim towards a satisfactory solution. Great accuracy and copious observations will be of great value for the theory can afford the aid of many workers, since gardeners there is the possibility of obtaining many crosses which might adorn our cool and hot-houses during winter.

On the constitutional vigour of hybrids I should greatly desire information, rather than attempt to give it, but the behaviour of Montbretia Potschii, Tritonia avara, and C. eucrocomosa, in the Edinburgh Garden during the past winter seems suggestive. The form of the flower appears scarcely to have been injured. Those of the hybrid have been largely killed off—at least, to the extent of 90 per cent. of the plants. The exposed ground—has survived only where it is planted against, and can creep along, the outside of a hot-house wall, J. M. Macfarlane.

NEW OR NOTEWORTHY PLANTS.

ODONTOGLOSSUM × EXCELLENS, Robb.f.

One of the most interesting exhibits at the recent Temple show, was a plant of the above well-known Odontoglossum, exhibited by Messrs. J. Veitch & Sons, of Chelsea. It was a seeling raised in their London greenhouse, and produced by crossing O. Pescatorei, with the pollen of O. Tri- umphans. There are two or three points of interest about this particular plant which deserve to be placed on record. It is a true hybrid, since the original Odontoglossum which has now become fairly common in gardens, and which has long been thought to be a natural hybrid, though O. triumpans was suspected by Reichenbach as one of the parents, nor O. triumphans, nor the root O. Pesc. It was the first hybrid Odontoglossum which has been raised in this country, and successfully grown to the flowering stage. Others have appeared, but have unfortunately died in cold frames. The flower was described in an earlier record, namely O. × Leroyana, raised by M. Leroy, gardener to Baron Edmond de Rothschild, of Auffanville, near Paris, an equally interesting plant, as it proved what has always been supposed to be the parentage of O. × Wilckianum, of which it can only be considered a variety. It was obtained by crossing O. crispa with the pollen of O. luteo-purpureum. Now that the initial difficulties in the way of such a cross has been surmounted under cultivation, it is to be hoped that further successful results may be attained, as it would be extremely interesting to know what the insects of that interesting Andean region could do in the East. Speculation has now been changed to certainty in two highly interesting cases. There are several others, in which no reasonable doubt can exist, and hybridists could not possibly choose a more interesting field of research than this.
THE GARDENERS' CHRONICLE.

June 20, 1891.

MANURES FOR THE GARDEN. We gather the following important and interesting facts from a recently-delivered lecture by Mr. Joseph Higgens, of the Western New York Horticultural Society.

One of the most important facts in regard to fertilizers, was briefly and tersely stated by Sir J. B. Lawes, in a letter to Mr. Harris last summer, in which he says, "Where the food is, there are the roots." At equal prices for nitrogen, Sir John wrote, "I certainly prefer nitrate of soda to salts of ammonia. The superiority of pasture grasses is most decided, and in dry seasons when the grass upon the ammonia pots is quite burned up, there is always plenty of grass where the nitrate is used. We had a great drought in 1970, and we had no grass anywhere except on the nitrate pots. We found roots 4 feet deep from the surface, evidently following the nitrate, and, of course, getting water from the subsoil." "Where the food is, there are the roots."

Soluble phosphoric acid and soluble potash and ammonia salts do not move about in the soil. They remain pretty much where we put them. But nitrates will move about in the water of the soil. During a drought the soil near the surface is dry, and moist at a lower depth. The nitrates follow the moisture, and the roots follow the nitrates. Sir John said that the roots follow the moisture; but this will not explain the fact mentioned by Sir John Lawes that, "in dry seasons, when the grass upon the ammonia pots is quite burned up, there is always plenty of grass where the nitrate is used. In the Rothamsted experiments on grass, manures of all kinds are used on different plots, and yet during the drought of 1870 there was no grass anywhere except on the nitrate plots. The moisture of the subsoil, without food, would not draw the roots, or if it did, they could not live and thrive without appropriate food.

While the farmer has to deal with only half-a-dozen different crops, the horticulturist, florist, nurseryman, and fruit-grower, have scores and hundreds of different plants to feed. All plants are composed of the same elements, but there is a great difference in the amount of heat, moisture, and food best suited to the various plants.

Professor Voorhees, of the New Jersey Experiment Station, found that two applications of nitrate of soda to Tomatoes; one, when the plants were set out, and one a month later, when the fruit was beginning to be ripened, produced a larger increase of nitrate of soda at each of these times. Tomatoes require plenty of heat, and it may be desirable to apply the nitrate while the plants are growing, in order to attract the roots into the warm soil near the surface. The same may be true in regard to Melons. For outdoor Roses in permanent beds, the author's experience leads him to think that it is desirable to get the subsoil rich in nitrates. He has used nitrate of soda for Roses, and the longer he uses it on a bed of Roses, the more vigorous are the plants, and the more luxuriant and glossy are the leaves. He gives them a heavy dressing every spring and summer, and the subsoil is rich in nitrates, and that the roots follow the food.

Many letters from florists and fruit-growers have been received asking about nitrate of soda. The florists ask in regard to its effect on Roses in the greenhouse. Because nitrate has a wonderful effect on Roses out-of-doors during the bright sunny weather of summer, it does not follow that it will be equally beneficial on Roses in the greenhouse. The compost used is probably much nitrated when planted.

When a plant has all the food it can use, applying more will do no good. In such a case the measure of growth is determined by the amount of sunshine, and the temperature of the air. A moderately nitrated compost does not suggest that nitrates of soda would have much effect on flowers in the greenhouse. It may well be, how-