its stigmas. The heads were marked by a thread. Seeds were formed, which being sown germinated in the autumn and in the following year bore flowers, which were purple, with a yellow base. The Museum has some of what is known as young and matured. An account of the plant was given by Linneæus in a prize essay on the six plants sent to the Academy of Sciences of St. Petersburg in 1760.* It is mentioned in a later paper read at Upsala in 1762 by one of his pupils as being annually propagated by seed.† Focke, who has given a very full account of the plant, says that it is known in the stately artificial culture of plants, both spontaneous and artificially produced, calls this plant of Linneæus "the first hybrid intentionally produced for scientific purposes," and adds that the objections which have been brought against its hybrid character by Köhlreuter and others "are not sound, since they deal with plants of the second generation."‡ The seeds of the hybrid seem to have reverted to T. pratensis, which was one of the grounds of Köhlreuter's objections, and of his disbelieve in the spontaneous production of crosses when the plants were left free to be pollinized by their parents. A spontaneous cross between these species has, however, been reported from the Danish islands of Lolland and Fünen, "the outer flowers brown-violet, the inner yellow."

A limitation is made in the above cases to crosses produced artificially for scientific purposes, for it can scarcely be disputed that Thomas Fairchild, the nurseryman and florist of New York, London, had before 1719 at least one dianthus species crossed Dianthus carthusianorum and D. barbatus. He has since been cultivated under the names of Fairchild's Sweet William, The Mule and D. hybrida Hort. The authority given for this is Richard Bradley, an English writer on horticulture and husbandry of the first half of the last century. Hence the credit for the earliest authenticated cross intentionally made is due to a man engaged in the practical work of gardening. E. J. Hill.

The Box-Elder on the Plains.

I HAVE been interested in studying the problem of the distribution of native trees upon the Great Plains and their adaptation to the peculiar conditions which prevail over this great central region of the continent, and no tree has attracted my attention in this region more than the common Box-Elder, or Ash-leaved Maple, Acer Negundo. As it grows upon the plains it is a stocky tree, with a trunk ten or twelve inches in diameter and not more than six or eight feet in length, bearing a rounded bushy top, giving to the tree, as a whole, much of the appearance of a well-grown Apple-tree in an eastern orchard. It occurs along the streams in Nebraska and Iowa, along the Missouri River to the Rocky Mountains, and here and there in favored localities it has pushed away from the streams a mile or so. It appears to be perfectly hardy, and I am sure that I have never seen the slightest indication of injury from the greatest exposure to severe cold.

The Box-Elder has been used very freely by the settlers who took up "tree claims," and for many years, until the repeal of the timber-claim law, there were millions of these trees planted every year in the state of Nebraska alone. The young trees transplant easily and are readily had, and hence usually very low. Then, again, it is a very simple matter to grow the trees from the seeds, which insures the low price of the young trees. A few years ago I visited a large establishment in southern Nebraska where from eight to ten millions of young Box-Elder trees were grown each year. The young fruits were collected in the autumn and carefully protected in a great barn, and in the spring these were sown in drills, just as a farmer sows any of his crops. In a short time the little plants pushed through the soil and began to shoot upward. The fields of Box-Elder seedlings were cultivated from time to time, and when a few inches

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† Ibid., p. 212.
‡ J. S. Mather, pp. 221, 429.

What is the Forest Policy of European Nations?

WHENEVER we are about to advocate or inaugurate a new national policy it is wise to see what other nations are doing or have done in the same direction, even though we may not see proper to imitate them.

As far as regards to its policy in the United States has been for the Government to get rid of them as quickly as possible, until in 1891 a new policy was feebly inaugurated with reference to forest-lands by giving the President power to set aside and reserve such areas as he saw fit. This policy has, however, not as yet been safely established, and arguments for upholding it and for securing further application are still in order.

In Europe the tendency at the end of last and beginning of this century had also been to divest the Government of this kind of property under the misapplication of the theory of Adam Smith and the doctrine of individual rights urged to its most extreme consequences. France, during and after the Revolution, took the lead in this dismemberment of its forest property, selling during the years from 1791 to 1795 nearly one-half of its state forests and continuing to reduce the area until there remained in 1874 but one-fifth of the original holdings of the state. Many of the German principalities followed the same policy, selling off the forest-lands which had been preserved in the Government for centuries.

But during the last fifty or so years of this century a reverse set in; the forest consecrated by centuries of individual ownership over this class of property had made it plain enough that the necessity of a change arising from communal interests had come, and now it can be stated that the policy is entirely reversed, that all European nations have the tendency, not only to hold their forest property in Government hands, but to extend it in area and in efficiency, and also to exercise stricter control over the use of private forest property whereby damage to communal interests might result thereby.

Instead of selling, most Governments now buy. There is, to be sure, also selling of Government forest property, but only for the purpose of making the Government forest property more efficient, of consolidating it and of making it serve to the best advantage the purposes of protection to agricultural interests. Thus, in Prussia, agricultural land under forest is exchanged or sold for non-agricultural land or devastated forest property and servitudes resting on the state; forest property from olden times are sometimes removed by cession of forest-lands, so that the bare statistics of the increase in the area of state forests do not tell the whole story.

In France, since 1870, no sales have been made, and by gradual acquisitions a small and steady increase of forestland has taken place. The difference between the areas in 1872 and 1892 was over 300,000 acres, the state holdings representing now about ten per cent. of the total forest area, and in addition the state has spent in the neighborhood of