EXPERIMENTS IN HYBRIDIZING.

BY P. C. DEMPSEY.

Previous to the year 1865, I was frequently trying to cross the Clinton Grape with the best exotic varieties we had, but was unsuccessful, having to keep the pollen in a phial for some time, on account of those under glass blossoming in advance of those in the open air.

In 1864, I grew plants in pots, of Clinton, Creveling and Hartford Prolific. In the spring of 1865, I set those plants under glass, arranged so that I could retard or advance the blossoms, by raising or lowering the temperature of the house. When they were sufficiently advanced, I removed the stamens of about one third of the blossoms from about two bunches on each plant, the remaining were removed entirely. I fertilized the Hartford Prolific with pollen from Black Hamburgh, the Creveling with White Sweetwater, and Clinton with Golden Chasselas. (As I kept no record of the experiment, I must write from memory.) There was about equal success, they were almost full bunches. But unfortunately a hen got at the Creveling and Clinton and destroyed the most of them; from the Creveling I grew three plants, two of which were so tender in foliage as not to be worthy of trial; one being a very fine plant, I thought it almost perfect; it disappointed me, having imperfect blossoms. From the seeds of the Clinton I grew five plants. The Thrips lived on them as long as there was a leaf left.

From the seeds of the Hartford Prolific I grew over fifty plants; they had the greatest difference imaginable in foliage; many of them would not resist the mildew, while some would curl from the effects of the sun. A few, however, are promising to be worthy of trial or cultivation. Nos. 18, 20, and 25, are white, and Nos. 5, 19, and 26, are black; the above varieties are all large in bunch and berries, hold their fruit well, and appear to have good foliage.

In 1867, I crossed Allen's Hybrid with Delaware; got about twelve plants, only two of which had foliage that would justify me in continuing the cultivation of them. One has fruited this year; produces a white grape, or rather very light amber colour, with the flavour, foliage, and wood, resembling that of the Delaware.

I have frequently made efforts to cross the different varieties of pear, in the blossom, always using bags made of tarltan, to protect the blossoms being fertilized by natural means. I think it a very poor protection; I have several seedlings produced in this way in 1869; nearly, or quite all of them are perfectly thorny. The varieties used were Beurre Clairgeau, Beurre d'Anjou, Passe Colmar, Fondant de Noel, &c., but I kept no account of the experiment and which varieties were used as male, but have a record of the varieties of the fruits; that the seeds came from, the female. I budded from fifty-eight of the most promising of the plants the same year from seed (or in 1870), in a bearing tree, none of which have fruited or shown fruit buds as yet, but nearly all are thorny.

In 1870, I experimeted largely with the pear; as I had been gaining experience, I expected success. The pear blight took every branch, except one, that was operated on, and that was Osband's Summer, crossed with Duchess d'Angouleme. I only got one plant; that one is not thorny, it shows distinctly, in the foliage and wood, the habit of both parents.

In 1871, I planted some seeds of the Bartlett and Flemish Beauty (pear), intending to use them for stock; one plant resembled the former, and appeared to grow fine. I grafted the tops in a bearing tree. Last spring, one year from graft, it had one bunch of blossoms, that had so great weight, with the help of a little rain, the branch broke, it has now over forty blossom buds. I only mention this as an exception to the rule laid down by some authors: seventeen years from seed for a pear to fruit.

After so many years of failure, I adopted the theory laid down by Mr. Rivers, in his "Miniature Fruit Garden," to root prune some of my pear and apple trees. I differ with Mr. Rivers in the time to perform the job, he does it in the fall, I prefer the month of April, as soon as the frost is out, and the land sufficiently dry to work. I take the tree up, shorten all the roots that extend deep into the earth, and those side roots that are growing too strong, and plant in the same place, being careful to raise the roots as near the surface as possible. Manure on the surface. I prefer to commence with a tree one year from bud or graft, and transplant each alternate year.

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