As the materials, *Capsicum annuum* L. var. *fasciculatum* IRISH. (Yatsubusa) and *C. annuum* L. var. *grossum* SENDTNER (Ohshishi) were used. The object of this experiment was to examine the grafting technique of increase of the frequency of occurrence variations and to clarify its effect on the content of acrid compound in the fruits. For the examination of the grafting technique, the differences between the development age of stock and scion were taken. For the scion, plants that began to put forth true leaves were used. For the stock, plants sown 50, 40, 30, 20 and 10 days earlier than the scion were used.

Yatsubusa was signified as Y and Ohshishi as O. The combinations of grafting were shown as fraction, scion as numerator, and stock as denominator. The differences of dates of sowing between stock and scion were shown in figures. All the combinations were signified as follows:


The research was made into the Yatsubusa which was used as the scion or the stock.

At the initial grafted plants, various variations of the fruit shapes were observed and they were classified into 4 types by the shape of the fruit top (Fig. 1). Particularly, when the Yatsubusa was used as the scion, there were stronger tendencies to grow transformed fruits than when used as the stock. And, the content of capsaicin in the fruits of the grafted plants showed the tendencies of lowering more than in the control which was not grafted. These tendencies were observed to be greater when the Yatsubusa was used as the scion than when it was used as the stock. But the effect of the differences between the development age of stock and scion on the fruit shape and the content of capsaicin in the fruits was not made clear owing the scarcity of the grafted plants.