

ciety of Scotland, and a prize medal of the Great Exhibition, London, in 1851. The following remarks are from a pamphlet published in England describing the origin and properties of the hybrid variety:—

"New varieties of our cultivate plants generally owe their introduction to accident rather than to a systematic plan continued through a long series of years. A farmer is struck by the appearance of a few ears of corn, either growing in the field, or what is more generally the case, in some place where the soil and circumstances are favorable for a luxuriant growth. He preserves and cultivates the seed, and in a year or two introduces it as a new and improved variety, or he may select a large and well-shaped root from his turnip field, and raise stock of seed from it; such is the usual method, and it is one that has been adopted with much success; but though careful selection and cultivation may alter the appearance and growth of a plant, and improve its produce and quality, yet it can hardly be adopted as a means of introducing new varieties, but rather to improve those we already possess. In the same manner as the judicious breeder selects his cattle for those properties which experience tells him will be imparted to their offspring, in greater or less perfection in proportion as the system of feeding is judicious or the reverse, just so the seed farmer finds the acquired variance or quality of a single plant is continued by its seed in the production of similar plants, in greater or less perfection according as the soil, climate, and season are favorable to the growth of that plant.

Much has been done by improving the various breeds of cattle, yet, with the same care in the judicious selection of agricultural seeds as of live stock, no doubt the result would be equally satisfactory. It is a matter that demands our serious attention, for if we can by this means add but one bushel per acre to our produce, it will, in the aggregate of the whole country, become an item of vast importance. In very many cases I have seen the production from seed of a good variety exceeding to the extent of seven or eight bushels that of another kind grown near it, under exactly the same circumstances of soil and tillage, and the same with roots, to the extent of as many tons; thus it seriously affects the individual farmer, and it becomes of vast importance to the public generally that only the best and most productive of agricultural plants should be cultivated.

But whatever may be done by selection and cultivation, it is by hybridization alone that varieties capable of permanently retaining their peculiarity of form can be obtained; and on any that are so constantly brought before the public must either be old sorts with fresh names, or owe their origin to accidental impregnation. Cultivation and selection may for a time alter the form of plants, but under a different system of treatment they return to their original state; with hybrids it is otherwise. It is a matter of some importance that the form and character of plants may be combined or altered with so much ease; the operation merely requires patience and careful selection.

The Hybrid wheat, which is now offered to public notice, is a red wheat, with stiff straw of a

medium size, and is similar to one of the best specimens shown at the Great Exhibition. It owes its origin, as a distinct variety, to the following circumstances:—

In the year 1816, I grew in a garden at Hengrave, near Bury St. Edmunds, a few plants of Piper's Thickset wheat, a red variety, then recently introduced by Mr. Piper of Colne Enguin, in Essex, and remarkable for its short, thickly clustered ear, its soft stiff straw, its productiveness in a favorable season, and its liability to blight in an unfavorable one, rather than for the quantity of its produce. I thought that some of these bad qualities might be neutralized, and new varieties be obtained, partaking more or less of the good qualities of both parents: and with this view I inoculated (as described in the Illustrated Official Catalogue of the Great Exhibition) the Thickset wheat with pollen chiefly taken from the Hop-grown variety, a well known white wheat of fine quality, with long straw, and with an ear much larger, though not so closely set as that of the Piper's Thickset.—in fact, forming to the latter a perfect contrast. From this I obtained a few shriveled grains, which I planted early in the autumn of the same year, and by division of the roots I greatly increased the number of plants. The produce was many kinds, both of red and white wheat; some of the ears bore a perfect resemblance to the Piper's Thickset; others partook of the character of the Hop-town in everything except in the color of the chaff; others had had the ear thin and open; and the remainder else set, thus, in the same ear showing the same characteristics of each kind.

The cultivation of the Hybrid wheat has been continued up to the present time, and by careful hand-picking an even sample is now obtained.

WHAT IS THE BEST MODE OF CASTRATION?

BY T. HURFORD, M. R. C. V. S., 5TH KING'S HUSARS

Which is the best mode of castration? If you ask the question of five or six men, you will probably receive as many different answers. I have tried the actual cautery, the clamps, the ligature, and scraping; and I prefer the last; it being simple, safe and speedy.

You have, doubtless, tried it, and perhaps most of your readers have performed the operation. However, at the risk of telling a twicetold tale, I will endeavor to describe the mode of scraping. You begin by castration in the ordinary way. Fix the testicle, and grasp it with the left hand; divide the seminal part of the cord, and, with a tongue-edged knife, scrape the vascular cord lengthways, until you scrape through it. Simple enough, and speedy, too, since from first cut to last scrape takes rather less than twenty seconds. I have done it in sixteen, and safely, for I never knew a horse bleed more than I wanted, and you have a simple wound without any foreign substance to deal with. The horses stand quiet for nearly three days, being merely rubbed down. On the third day, the coagulum is washed away, and the parts cleaned, and nothing more is required after than to con-