

THE AMERICAN SHORT HORN RECORD.

A correspondent of the Rural Press writes to that paper as follows: A short time ago we received the fifth volume of the above-named work, containing about 600 pages. The paper and the printing are all that could be desired, which, added to the strong binding, make it the best get-up herd-book we ever had the pleasure of handling—either English or American. So far as we have had time to examine the work, we find it comparatively but not entirely free from errors; but as the present volume contains an errata for errors discovered in former volumes, so may we expect the errors of the present volume to be corrected by the same plan hereafter. We have to find one or two faults with the work, one being in the rather extraordinary large addenda, which contains the pedigrees of no less than 135 bulls, a fair proportion of them, however, being ancestors of cows entered further on in the work. Probably there is no one in this State who makes more use of the Herd-book than we do ourselves, and in tracing out pedigrees in this work we have often overlooked pedigrees (afterwards discovered to be in the addenda), by expecting to find all the bulls alphabetically arranged, and thus be able to find a pedigree without the trouble of referring to the index.

One of the best rules governing this work is that all pedigrees must trace to imported stock, in all their lines. Another is, that no female can be recorded till she has produced a living calf, excepting as produce under her dam, following the rules of the English Herd-book in this respect; and very properly, we think, as in the produce under dam is given date when calved, color, size of calf and breeder's name.

We are sorry to see that the last rule is not strictly adhered to, for we find no less than 30 cows without any produce recorded under them, the real produce being explained away by such notes as "Regular breeder." "Has had calves" in one case, "Has had six calves." "Produce dead." "Calf died," and so on. Now we contend that such pedigrees do no good in a herd-book, any further than to say who bred and who owns such and such a cow. If they are imported cows their pedigrees, with produce, will in due time appear in the English Herd-book, and if they are cows that have been bred in this country, their produce, even if dead, should be put in the usual form under the dam—the real object of which is to show what calves a cow has had and when, for future reference. Our object, however, in writing this, is not to find fault, but rather to help to make the work better known to those of our California breeders who may not have seen or appreciated the work in its true light.

The idea of getting up such a work first originated, we believe, with the late B. A. Alexander, but the undertaking was being carried out in his day, was afterwards put into shape by his brother, the present proprietor of the Woodburn estates, assisted by H. Evans, who still continues its able and careful editor. From the preface of the first volume we make the following extracts, which explain the object of starting such a work.

"Having long felt the great want of the Short Horn breeders of America, of some proper record, or Herd-book, wherein the pedigrees of all pure-bred Short Horns might be recorded for preservation, which at the same time should give, in full, all the known pedigrees of animals entered in it, I have undertaken to supply this want.

"I should, however, another volume of the work be published, and other breeders wish to register the pedigrees of their herds, I shall be glad to have their co-operation, under rules, requests which the work complete within itself."

"Complete within itself." Herein lies the great value of such a work to American breeders, in enabling them to trace out the pedigrees of each animal to its very foundation, so far as is known, from all sources whatever.

Now, in order to give some slight idea of the labor of such an undertaking and the work involved in tracing out a pedigree to its foundation—to those who are uninitiated in such work—we will take, for example, the well-known bull, 55, "Belvedere" (1,706), who is recorded as an ancestor, of course, in the first volume of the work, and in whose pedigree there are 11 sires, all of whose pedigrees are entered in full in the same work.

Now these 11 sires' pedigrees contain 50 other sires, all of whose pedigrees must be examined and recorded, with all their sires, grandfathers and so on, to the end of the chapter, as one might say, before the work can be called "complete within itself." Of course, many of the bulls in the same pedigree trace to the same foundation, as in the case of "Belvedere," who had the noted bull, "Waterloo," for his sire and "Young Wynyard" for his grand sire. Now the dam of the last-named bull was "Princess," from whom also descended the two former bulls through her granddaughters, "Angelia," who was the dam of "Waterloo" and the granddam of "Belvedere," so that below "Princess" or the bottom of the pedigree, as it is called, is the same in all the ancestors.

In consequence of the very large number of ancestors to be recorded, we find that out of the 635 bulls in the first volume, less than 20 were bred in America, and all the cows in both the first and second volumes were either bred or owned in Kentucky, whilst amongst the 103 sires of the latter volume there are comparatively few original entries, the greater part being the pedigrees of ancestors, taken from the American or English herd-books—most from the latter work.

This being the case, the cost of recording in the first few volumes was rather expensive to those who made use of the work. The charge for each pedigree was \$1; ancestors, not already in the book, 50 cents each.

We have already said that the first and second volumes contained original entries only of the pedigrees of animals bred or owned in Kentucky. In the third volume, however, we find herds owned in several other States represented in the work, our own State not being behind hand in the matter, for there are several entries from the Eden farm herd, whose owner, we presume, is over on the alert on all matters pertaining to Short Horns and their pedigrees. In the fourth volume we find entries from the herds of Messrs. J. D. Carr, S. B. Emerson, Chas. Clark and the estate of Thos. S. Page, and we hope hereafter to see the work patronized by others of our State who have Short Horns eligible for entry according to the rules governing the work, hoping that it will prove to all other subscribers interesting and instructive in pedigree matters, as it has ever been to a California breeder.

SUCCESS IN HORSE BREEDING.

The following remarks are extracted from a paper by Hark Comstock, which appeared in *Walpole's Monthly*. Many breeders have plans to start with, but either forget them at the critical moment, or change them so often that their selections point to no clearly defined method. This is nearly always the experience of the novice. He is educated only by experience and gains his knowledge only by the mistakes he finds he has made at the start. Hence we find many places with a few choice animals and a large number of ordinary ones that it would be desirable to dispose of could a purchaser be found, but which are generally held because the owners dislike to face the necessary sacrifice. The first loss is generally the best in such cases, and the fact is coming to be generally understood with the present depression in the selling value of even choice animals. Where the lack of means dictates selections, it would not appear so strange that animals wanting in some essential qualities for breeding should be chosen in the hope that the deficiency may be counterbalanced by other superior features, and overcome in a proper cross; but with ample means at command, many young breeders make their purchases at random, completely squandering their advantages. Sooner or later most of them better their condition by selling out entirely, or venturing out their stock and re-purchasing. The writer has noticed, in an extended observation of some years past, that frequently the poorest bargains have afterwards become breeders' excellent judgment. Experience is an expensive but very efficient teacher, provided the recipient of the lesson is capable of learning. But there is now and then a clear business mind that takes up this subject of breeding and makes a study of it before venturing to put its deductions into practice. Such men determine what they want before they buy at all, and then keep their aims clearly in mind while selecting. They go straight by their chart at first, and usually accomplish something to show for it. They do not all follow the same path nor do they all aim to accomplish precisely the same object; but having thought far enough to create an idea which they hope to imitate, it generally possesses sufficient merit to be of value when approximated, and hence they succeed as breeders.

It is frequently asserted that there is no definable way of breeding that will bring success, and the whole system is one of chances, great results coming when least expected, and disappointment following the most logically conceived plans. There is a greater measure of truth in this claim than even the most ardent enthusiast on the subject can set aside, if the object sought be profit in the investment, and no other aim in the breeding problem than the mere question of breeding speed and bottom. The most successful breeders in this country produce too many blanks to their number, and prizes to keep the balance sheet right, unless the blanks possess a value independently of the question of speed; and with the blanks in the ratio in which they appear on many stud farms, it is a question whether their disposal is not a matter of far greater moment in a financial sense than that of the prizes. It is the common experience of breeding on any considerable scale, that after a few years' trial it is found desirable to reduce the mares in number to the few for which a direct kick has been found, and dispose of the others, no matter with what care and judgment they were originally selected. This has been the experience at Thersdale, Stoney Ford, and other noted establishments—must continue to be so. Therefore every point which tends to produce a foal salable for other purposes than speed, that can be compassed without sacrificing the chances of that most valuable element, should receive due business consideration in selecting breeding animals, in order that the produce may yet bring the breeder out without loss.

VALUE OF THE EUCALYPTUS.—We learn from the *Metéorological Magazine* that, at the Easter reunion at the Sorbonne, some information was given by Dr. de Pietra Santa, a delegate from the Climatological Society of Algeria, as to the results of an investigation made in Algeria to ascertain the importance and value of the *Eucalyptus globulus* in relation to public health. It appears that reports were received from 50 localities where the aggregate number of blue gum trees is nearly 1,000,000, and from these reports the following conclusions have been drawn: 1. It is incontestably proved that the eucalyptus possesses sanitary influence; for 2, wherever it has been cultivated intermittent fever has considerably decreased both in intensity and in frequency; and 3, marshy and unventilated land which has been rendered healthy and quite uninfested. Similar results have been obtained in Corsica, where it is computed that in the present year there will be upwards of 600,000 plants of eucalyptus in full growth.

TO REMOVE RUST.—To extract rust from steel, immerse the article to be cleaned in a solution of one-half ounce cyanide of potassium to a wine glass full of water until the rust and dirt disappear. Then clean by means of a tooth brush with a paste composed of cyanide of potassium, castile soap, whitening, and water. Users of this recipe must remember that cyanide of potassium is a most virulent poison.

THE CLOVER DODDER IN ENGLAND.

Our alfalfa growers who find their plants lugged to death by the usine dodder parasite, are sometimes at a loss to determine whence comes the grievous pest. Our English cousins find it very destructive to their clover fields, and they have apparently concluded that the seed which they import is pretty freely doddered. On this subject, Messrs. Carter, seedsmen of London, write in their newly issued catalogue: "We have devoted considerable attention to this important subject, and last spring conducted the following experiment: Having obtained a quantity of dodder seed from a dirty sample of foreign broad red clover (and it is only in the foreign clovers that dodder abounds, only to be detected by a keen professional eye) we sowed it afterwards, transplanting the fleshy threads amongst a batch of machine-cleaned seeds, and the process of the destruction of the crop was soon completed." It may not be generally known that dodder does not show itself in the first stages of growth of the clover crop, and very many fields, considered to be splendid in the autumn, are speedily choked and destroyed the following spring.

"This detestable pest waits for the clover plant to develop into luxuriance, and then winding its web-like leafless tendrils around the base of the stem (into which it inserts its roots and saps away the very life of the clover), it winds round and round the upper portion of the plant to strangle and destroy it. The seeds of dodder are sometimes conveyed into the land, and either from being buried too deep to induce germination, or from the fact that the growing crop is not sufficiently congenial to the habit of the dodder, the latter remains dormant only too surely to develop itself when the land is again cropped with clover."

It seems all important that alfalfa growers should put in nothing but clean seed. This fact they can determine by examining what they buy with a magnifying glass, after first acquainting themselves with the appearance of the dodder seed. We have no doubt that in most cases it will be found economical to buy the best samples of seed which are offered, as it is in low priced bulks that the weeds are most frequently found in quantities seriously inimical to good farming. Of all the weeds in clover, the clover dodder is the most serious enemy, inasmuch that when once infested with this pest, a more or less destruction of the crop is inevitable.—*Rural Press*.

NOTES FOR METAL WORKERS.

From the pages of a recent issue of the *American Jeweler and Silversmith* we collect the following hints of practice:

Silver alloys.—No. 1. Silver, 11 ounces, two pennyweights; copper, 18 pennyweights. No. 2. Silver, one ounce; copper, one pennyweight, 12 grains. No. 3. Silver, one ounce; copper, five pennyweights. A solder for the above is as follows: Silver, 16 pennyweights; copper, 12 grains; tin-brass three pennyweights, 15 grains. Silver solder for enameling.—Silver, 14 pennyweights; copper, eight pennyweights.

Quicksilver solder.—Silver, one ounce; tin-brass, 10 pennyweights; bar tin, two pennyweights. Common silver, for chains.—Silver, six ounces; copper, four ounces.

A bright gold tinge may be given to silver by steeping for a suitable length of time in a weak solution of sulphuric acid water, strongly impregnated with iron rust. Putty polish (oxide of tin) will put a beautiful polish on ivory, and would possibly do for tortoiseshell. Apply the putty powder on a piece of flannel with water or methylated spirits and elbow grease, and finish off with dry powder.

As nickelizing is replacing silvering in certain cases, so there are cases where nickelizing may be itself replaced for many articles of small value. The manipulation is very simple. Course, rasped, or granulated zinc is boiled for some time in a mixture of three parts, by weight, of sal ammoniac and 10 of water. The metal immersed and stirred up with a zinc rod. The deposit is silvery bright, and resists mechanical action as well as a coating of nickel. This process can be recommended for goods that are meant for second coating of some other metal, since any other is easily deposited upon zinc.

A gold lac, remarkable for its great hardness and beautiful color, on being analyzed by Dr. R. Kayser, Nurnberg, gave as its constituents picric acid and boric acid. Thereupon a clear shellac solution was mixed with picric acid and half per cent. of crystallized boric acid, each being previously dissolved in alcohol, and the resulting lac possessed all the advantages of the former one.

RECLAIMATION OF LAND IN CHINA.—There is no country in the world where a little money appropriated in reclaiming valuable land will do so much as in China. Mr. Unthank thinks that an outlay of \$1,000,000, in draining the lake caused by the Yellow river, will be able to reclaim rice lands to the value of \$50,000,000. The Chinese do not dredge their canals, but build the banks higher as the sediment in the bottom raises the water, and the consequence is the surface of the water is in many places 15 or 20 feet above the land on either side. The canal is 800 miles long, and from 75 to 100 feet wide. The depth, according to Mr. Unthank's measurements, varies from 7 to 20 feet.

THE DIFFERENCE.—"What will you give me for this dog-skin, sir?" "My boy," the man replied, "was your dog fat?" "Yes, sir! So very fat! Indeed he were! If ever dog were fleshy, he were that." "Well then, my son, I'm sorry for the fat of such fat dogs is valueless." "The fat of the dog is valueless," "Now that I do recall that dog, he wasn't so blamed fat after all!"—*Scribner for July*.

QUESTIONS FOR PACIFIC COAST BOTANISTS.

Dr. Asa Gray writes in the *American Journal of Science and Arts* a brief communication to describe a peculiar structure which *Megarrhiza Californica* exhibits in germination, and to call for observations upon other species, at the time of germination, in the hope of thereby extending our present imperfect knowledge of this genus of big-rooted *Cucurbitaceae* of our Pacific coast. For the extraordinary peculiarity in question, being one which, in other cases, is known to exhibit itself in certain species of a genus (as in *Anemone* and *Delphinium*), and not in others, so it may in the present genus give aid in distinguishing the two species which have been characterized upon more or less incomplete or scanty materials.

After reviewing the points in the known history of the plant, as recorded by other observers, Dr. Gray writes as follows: The *M. Californica* has been raised in the botanic garden of Harvard University many years ago, but I had not seen the germination; and we were never able to bring the plant into blossom, as it invariably died down to the ground soon after making a moderate growth. On germinating some fresh seeds early this spring, I was somewhat surprised to find that they came up in the manner of beans. Instead of remaining hypogeous, as from the great thickness of the cotyledons would have been expected, the body of the seed in its shell was raised well out of the soil upon what seemed to be a well developed radicle, like that of *Erythraea*. If the cotyledons had expanded, though remaining fleshy, in the manner of *Phaseolus*, the difference between this and *Erythraea*, with cotyledons truly foliaceous in germination, would be much less than had been supposed. I waited long to see if this would occur; I also waited in vain for the expected development of the plumule from between the bases of the fleshy cotyledons. After the lapse of about a fortnight, the plumule in all three of my germinating plantlets came separately out of the soil of the pot. That is, the plumule came forth from the base of what appeared to be an elongated radicle (of two or three inches in length); and below this the thickening of the root, which acquires enormous dimensions in old plants, had already commenced. A large amount of the nonribbing matter stored in the cotyledons had been carried down to the root and used in its growth as well as that of the plumule. The latter came from a cleft at the very base of the seeming radicle, which otherwise appeared to be solid. But on cutting it across toward the base this was found to be tubular; and later, when more spent and beginning to wither, this stalk was separable from above downward into two parts.

This, therefore, is a case in which long petioles to the cotyledons (of which there is no appearance in the seed), connate into one body, are developed and greatly lengthened in place of the radicle, which is thus simulated. It is the same as in *Delphinium uniflorum* of California and some other species; only in that genus the cotyledons expand and become foliaceous.

Botanists on the Pacific coast are earnestly requested to examine the germination of all the species of *Megarrhiza*, and to compare with them the descriptions which are here given. At least three species should be met with near San Francisco, and in neighboring parts of California. According to the characters assigned by Mr. Watson in the "Botany of California," *M. Californica* should be known by its obovate seeds, of less than an inch in length, with a small hilum at the narrow base; *M. Marshii*, by its numerous seeds, horizontally impressed in a large fruit of four inches in length, each seed roundish and depressed, flattened at the ends, and about half an inch thick, with a prominent lateral hilum. *M. maritima*, by a nearly naked fruit only an inch in diameter, containing only two globose seeds of half an inch in diameter. *M. Oregonica*, which is known to occur from the Columbia river to the north of California, appears to have seeds resembling those of *M. Marshii*, but rather smaller; but they are not well known. The remaining one, *M. Grandisensis*, of Guadalupensis island, off Lower California, is much out of ordinary reach, unless it should be found in the southern part of the State. Mature fruits and seeds of all 3 species are much desired.

CONVERTING COTTON INTO WOOL AND LINEN.

The system of parchmenting paper is now applied to cotton, and according to the *Age of Steel*, promises a very important result. 1. Parchmented cotton as a substitute for wool. The raw cotton, well cleaned, is left for 24 hours in a solution of one part concentrated sulphuric acid, one part of sulphate of glycerine, and three parts water, at a temperature of 63° F. It is then wrung between glass rollers until the best paper goes no longer red. After drying the fibers will be found to have acquired most of the qualities of sheep's wool, and for using this cotton for spinning, weaving, or dyeing, it has only to be wrapped (beaten into) felt. When fabrics are made exclusively with the transformed material, and finally have been animalized in the usual way by milk, ammonia, oil, and lime, the fabric cannot be distinguished from genuine woolen goods, except by the smell given off in burning them, since the lanifed cotton smells just like the natural one. The super properties acquired by the cotton through this process justify the expectation that it will supersede all the ingredients hitherto used for producing half-woolen goods. 2. Cotton parchmented as a substitute for linen. Cotton yarns which have been steeped for 24 hours in a mixture of two parts concentrated sulphuric acid, and three parts water at 63° F., is then pressed and dried as above, and will not only have acquired every property of linen yarn, but it is also stronger and less corruptible than the latter. The difference in price, especially in fine numbers such as used for cambrics, being very considerable, the process would also prove commercially successful in this branch of industry.

It is reported that growing crops in Europe do not promise as well as a short time ago. In the East the Turk has turned the Russian advance in Asia, and meets the Russian onset in Europe with considerable vigor.