

others are as successfully breeding huge, powerful animals, as wonderful in their way as their pigmy relatives.

THE BREEDER'S PART.

It may even be said that a recognized part of the breeder's work consists in modifying, through changes in the external conditions, the animals to which he happens to devote his special attention, just as horticulturists, by food, heat, and timely shelter, alter plants until all resemblance to their wild stock is as good as lost.

Breeders of Shetland and Polo ponies, and, for that matter, breeders of race and heavy horses, know well enough that to have any chance of success they must exercise the utmost vigilance over the conditions under which their foals and colts are reared.

Unless the breeder takes cognizance of his power, and uses that power in the proper way, he loses the benefits he would otherwise derive from the use of a well-bred sire. Prof. Ewart's work shows that the rate of growth of a foal is unequal, even during the first three months of its life. It appears, however, that growth is rapid during the first month, less during the second, but rapid in the third, while from the fifth month on the rate of growth gradually diminishes, being affected adversely by such disturbances as shedding the coat, weaning and teething.

The increase in weight (17.7 c.m.) during the first six months is due to the growth of the fore limb from the point of the elbow down, and in the second six months is much less (3.7 c.m.), and after the first year still much less (1.4 c.m.). The increase in length of fore limb below the elbow is almost entirely due to growth in the bone (radius) immediately above the knee joint; while in the hind limb there is a gradual increase from the point of the hock during the first nine months, when the maximum length is often reached, the increase being mainly due to lengthening of the bones from the fetlock down (the phalanges), and the bone (os calcis) at the point (back) of the hock. The length of the head gradually increases all through the first year, when its maximum length is about reached; that increase (nearly doubling) in length is between the inner angle of the eye and the upper angle of the nostril; the girth is much increased in the first year, to nearly double.

TABLE SHOWING RATE OF GROWTH (3 YEARS).

Age.	Height at withers.	Height at croup.	Girth.	Length from top of head to line between upper margin of nostrils.	Length from inner corner of eye to upper margin of nostrils.	Length from point of elbow to ground, the leg occupying a vertical position.	Length from point of hock to ground, the shank having a vertical position.	Circumference below knee.
At birth	In. 36 1/2	In. 38	In. 30	In. 12 1/2	In. 5 1/2	In. 25	In. 18	In. 4 1/2
End of 1 month	41	42 1/2	38 1/2	14	6 1/2	27 1/2	19	4 1/2
End of 2 months	42 1/2	44 1/2	42	15 1/2	7	30 1/2	20 1/2	5 1/2
End of 3 months	45 1/2	46 1/2	46	16 1/2	7 1/2	30 1/2	21 1/2	5 1/2
End of 4 months	46 1/2	48 1/2	48 1/2	17 1/2	8	31 1/2	21 1/2	5 1/2
End of 5 months	48	49 1/2	49 1/2	17 1/2	8 1/2	31 1/2	21 1/2	5 1/2
End of 6 months	48 1/2	51 1/2	51 1/2	17 1/2	8 1/2	32 1/2	21 1/2	5 1/2
End of 7 months	49 1/2	52	52	18	8 1/2	32 1/2	22 1/2	5 1/2
End of 8 months	50 1/2	53 1/2	53 1/2	18 1/2	9	33	22 1/2	5 1/2
End of 9 months	50 1/2	53 1/2	53 1/2	18 1/2	9	33	22 1/2	5 1/2
End of 10 months	51 1/2	54 1/2	54 1/2	19	9 1/2	33 1/2	22 1/2	5 1/2
End of 11 months	52 1/2	54 1/2	54 1/2	19 1/2	9 1/2	33 1/2	22 1/2	5 1/2
End of 12 months	53	54 1/2	54 1/2	19 1/2	9 1/2	33 1/2	22 1/2	5 1/2
End of 24 months	56 1/2	56 1/2	56 1/2	20 1/2	10 1/2	38 1/2	22 1/2	6 1/2
End of 36 months	57	58	58	20 1/2	10 1/2	38 1/2	22 1/2	6 1/2

It is quite generally accepted that the sire counts for more than the dam, which is only partially true. If the sire happens to be more impressive than the dam, his characteristics will show more plainly in the progeny than those of the dam.

THE INFLUENCE OF THE DAM MUST BE RECKONED WITH.

A sire, however good, can no more make up for want of quality in the dam than good seed can yield a good return irrespective of the nature of the soil in

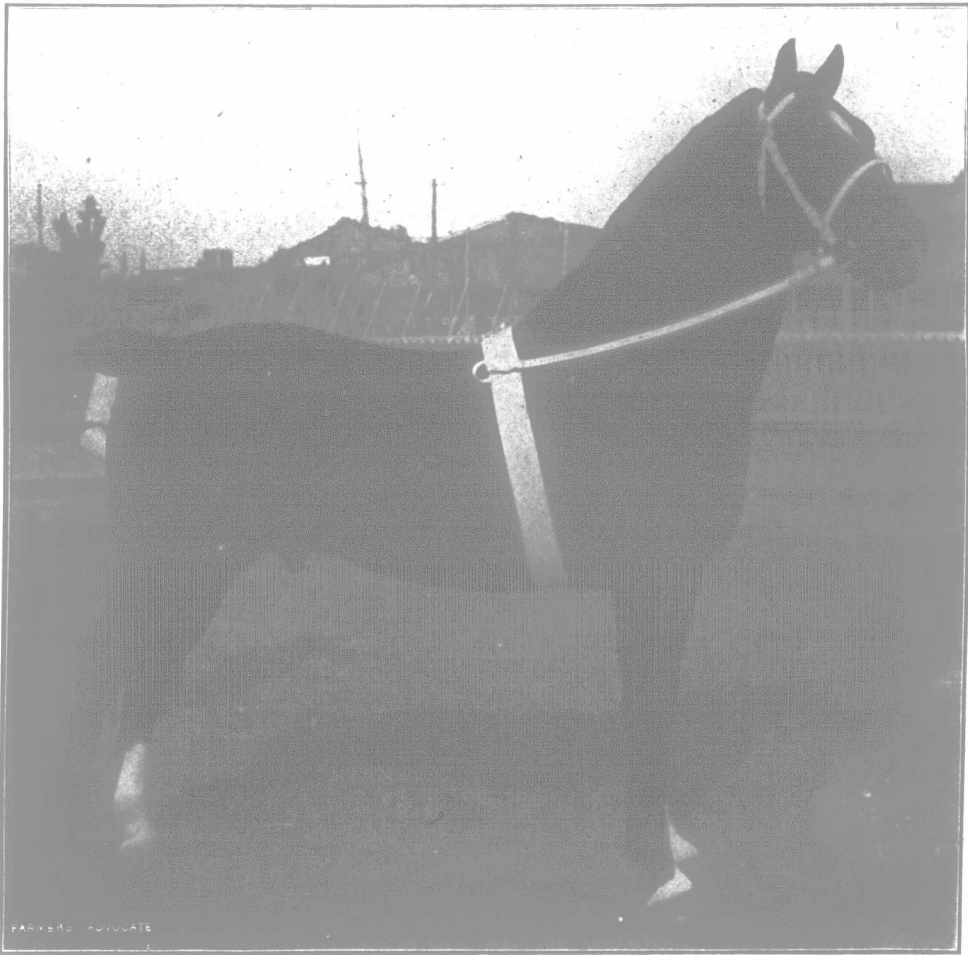
which it is sown (many a horse-breeder has found this out to his cost, and frequent disappointment). It is quite as important, according to the Professor, that the germ cell provided by the dam should be as perfect in every respect as the infinitely smaller germ cell supplied by the sire.

It may be briefly stated that the growth of the foal depends almost entirely on the dam being well nourished during pregnancy and nursing, and on the foal being well cared for during the first three years of its life, and particularly over the first winter. Straw-stack wintering stunts and spoils more horses, especially in our northern climate, than any other bad influence.

THE DAM MUST BE WELL NOURISHED.

To quote Prof. Ewart: "Unless before development begins there is stored up an abundant supply of the material needed for the developing embryo, and unless all through the period of gestation the food contains the ingredients requisite for building up the bones and other tissues of the developing foal, the result must of a necessity prove disappointing. No matter how perfect the sire, he can no more assist in providing nourishment or suitable conditions during development than he can assist in ministering to the wants of the foal after birth."

As the investigation shows that from the sixth week of development there is an ever-increasing demand for bone formers, a demand especially urgent during the latter end of gestation (pregnancy), a demand even more insistent for the first five months after the foal's arrival, during which time the greatest bone growth should take place, unless, therefore, each breeder so



Smylett Performer.

Four-year-old Hackney stallion. Winner of second in his class at Ottawa Fair, and first as a three-year-old at the International, Chicago, 1903. Owned by Stewart & Anderson, Dominionville, Glengarry Co., Ont.

feeds his breeding mares during gestation, and the foals produced for the first two years of life as to supply this demand for material for bone and muscle growth, he cannot expect those foals to grow to the maximum size and strength.

Docking Not so Fashionable.

An American journal in close touch with the fancy horse trade, says: "The dock-tailed hunter, formerly regarded as the 'proper thing,' is rapidly making way for the horse with a long tail. In harness horses, too, there is a growing prevalence of longer docks and undocked horses with tails trimmed to reach the hocks. The so-called switch tail, with the hair grown long enough to hang pendant from the dock at the end and on the sides, is also coming rapidly into vogue. What has caused this change of the public's taste we cannot explain. From the gradual realization of the fitness of things there may have resulted a more rational discrimination than was exercised up to a short time ago. Formerly the empirical rule was observed of docking every horse intended for heavy-harness or for riding to hounds and in the park. The efforts of certain sentimentally-inclined societies and individuals to prohibit docking entirely, by legislative enactments, have proven ineffective, but there should be some reasonable control of the practice."

Caring for Carriages.

The lack of care to which the great majority of our buggies are subjected is, without doubt, responsible for at least one-third the annual expenditure of the people of Canada for vehicles. Probably the account chargeable to neglect is larger—certainly it is not less—than one-third, and the total annual value of the products of Canadian factories making farm conveyances for the last ten years has aggregated six million dollars, or over one dollar per capita.

The proper method of caring for carriages is a subject in which the average young man of the country does not secure much training. The bustle and rush incident to every-day operations is offered as an excuse for the neglect to clean, protect or repair carriages, and so the habit of leaving the mud upon a buggy from week to week, until the annual or biennial wash-up becomes custom, much to the deterioration of the value of the vehicle. We once had a neighbor whose provident care of his carriages was an example to the whole community. He did not use many buggies in his day, for the simple reason that he took good care of them, and they lasted. One of his favorite roading buggies (a hand-made one, in the days before the large factories supplied the whole trade) lasted him over 30 years, and there was nothing antiquated about its appearance even up to the days of the drop axle and rubber-cushion tires, for it was always

clean and in good repair. Other neighbors, who neglected to oil, repair or renew washers, and who were compelled to buy new buggies about every eight or ten years, could never understand why they got a "cull rig." The explanation was evident: the careful man had provided a clean, dry room with a floor in it to protect his buggies; he washed the mud off as often as it was required; he kept a large sheet over the body of the vehicle; and usually once a year he gave it a coat of paint and varnish. At no time was there a rattle to be heard, and good castor oil was always used for lubricating purposes. At all times carriages so treated look smart, wear best, and afford the occupants the greatest comfort; besides, there is the economic significance of always having buggies in good repair and preservation. This fall there will

come a day when the buggy should be washed, rubbed clean, and given a coat of paint if it needs it, or, at least, an application of varnish, before being set away for the winter.

The Stable Housecleaning.

It is fall again, and preparations for stabling the stock must be made. Usually, this is not a large task, but consists in throwing out old boards, cleaning out mangers, patching up a little and dislodging migratory hens, all of which is necessary; in fact, it is generally only the necessary that is done when a cold wave comes swelling over the country and stock must be hurried in. If one has ever had the glad experience of being ready for such an occurrence, he need not be reminded how satisfactory things went. The stable needs at least an annual renovating. It should be clean and fresh for the beginning of the winter, and this fall there will come a day a wet one probably, if it has not already arrived, when all hands should turn in and houseclean in the stable. All rubbish should be relegated to its proper quarters, the walls, floors and ceilings swept down, repairing done, windows cleaned and enlarged if need be, and then the whitewash applied. The work of a day so spent will always be approved, and the minds of the stable hands will rest in the consciousness of a good deed well done.