

The Farmer's Advocate AND HOME MAGAZINE.

THE LEADING AGRICULTURAL JOURNAL IN THE
DOMINION.

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1. THE FARMER'S ADVOCATE AND HOME MAGAZINE is published every Thursday. It is impartial and independent of all cliques and parties, handsomely illustrated with original engravings, and furnishes the most practical, reliable and profitable information for farmers, dairymen, gardeners, stockmen and housewives, of any publication in Canada.
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The Accusing Cartoon.

The "Court Jester," long a recognized functionary in royal households, while providing jaded tyrants or dissolute rulers and their satellites with buffoonery, often ventured to give them thrusts of wisdom and warning. Beneath the fool's cap stood a prophetic philosopher. In modern journalism illustrated cartoon publications achieve a corresponding purpose. Under the guise of satire or humor rapier-like blows of unpalatable truth are launched that cut to the vitals not less effectively than heavier blows by the regular newspaper. "Life," the outstanding United States periodical of the former class, in a recent issue, scores without mercy, as it has done before, the hyphenated neutralism of the Republic, which one artist depicts as "New Prussia," Canada to the north being designated "Barbarians." All that is left for Uncle Sam is a little desert plot near the Province of Mexico, styled "American Reservation," with Florida as "Turconia." New York becomes "New Potsdam"; Albany, "Kruppsburg," and other noble towns "Hindenberg," "Hohenzollern," "Schlautehaus," "Hoch," "Kulturplatz," "Boy-Ed," "Neitzche," "Goose-step," "Bagdad Corners," and so on through the whole geographical list. With biting irony this map-maker writes at the foot of the page, "My Country, 'Tis of Thee." Over the page, under the heading "National Policy," two languid officials discuss cocktails, the passing girls, Steel stocks and "National Plumbing"—a good-buy—"Got a contract to put hot and cold water in the British trenches." The Hymn of the Hyphenated concludes:

"My Kaiser, 'tis of thee
I owe all loyalty;
To thee I sing:
May this land know the blight
Of thy all-conquering might
And everything."

In the midst of a smoking Europe, with murdered millions about him, Kaiser William proposes peace to a couple of other rulers, with the words: "my mistake, boys; let's make up and forget all about it." Standing before the ruins of the Capitol, at Washington, Uncle

Sam can only say: "Let us reserve comment, however, and maybe everything will blow over." Farther on Teddy R. is showing two boys, "Army" and "Navy" through a museum and stops at "Pisces Scribners" to explain: "This is the largest weakfish (President) ever kept alive in captivity." Over the page another picture shows the lightnings of the war-cloud looming near, while a kiddie in stars and stripes on the sand plays with his bag of gold:

"Rain, rain, go away;
Little Sammy wants to play."

Another conceit is "Mrs. Armourswill's Bridge Party," where, instead of steel shares being distributed as prizes to the winners, a lucky in uniform carries in a nicely beribboned, dressed hog. The piece de resistance of the issue is the double page cartoon portraying Uncle Sam as a bloated reveller, glass in hand, toasting fat Miss Columbia across the table, loaded with gold and bills, the accumulation of war profits. Beside a dark curtain to the right looms the grim menace of a Bismarckian figure, while to the left rise the spectres of bygone American heroes of freedom, exclaiming, with horror, "We died for this!"

Nature's Diary.

A. B. KLUGH M.A.

Now that we have dealt with the factors of the different environments and with the characteristics of the plants of the various formations we are in a position to discuss the most vital and fundamental fact in plant ecology. This fact is that formations are constantly changing; that one formation is continuously succeeding another. These changes are often so extremely slow as to be hardly perceptible; again they may be so rapid as to be plainly noticeable within a period of a few years. This idea of change is termed ecological succession. Exactly what is meant by succession and the manner in which it operates can be made clear by considering a particular case. Let us take the case of a pond and consider a point some little distance off shore where we have an aquatic environment consisting of typical Water Plants such as the Pondweeds, Water Millefoils, Wild Celery, Water Lilies, etc. We find that very gradually the Marsh Plants—the Rushes, Cat-tails, Sedges, Marsh grasses, etc., extend their range out from the shore, and as they do so their remains, and sediment caught among these remains, build up the bottom until the point which was formerly inhabited by the Water Plants is a typical Marsh. Gradually into this marsh come the Willows and other shrubs, and from a marsh the point we are considering is changed to a dry-land habitat. Trees next come in growing up among the shrubs; first the species, such as the Ashes, Elms and Red Maples, which live in a rather moist habitat, and later the Sugar Maples, Beeches, and other species. Now we have a forest, a mesophytic formation, where once we had a water plant formation.

In the case of lakes surrounded by a boggy margin we can see succession taking place. The Sphagnum moss (Peat moss) advances out over the thin, watery, mud at the margin; then among the Sphagnum various herbs and shrubs, such as the Labrador Tea, Leather leaf, Cranberry, Kalmia, Shrubby St. John's-wort, Shrubby Cinquefoil, etc., grow up, and later the Tamarac and Black Spruce come in. We can find lakes in all stages of succession—some with only a narrow margin of bog; others with a wide margin, and others in which the Sphagnum has come out from the margin all round, until it has met in the middle, thus completely covering over the open water, in which last case we call the habitat a lake no longer, but a bog. This layer of Sphagnum is often very thin towards the middle of the lake, and while the bog is safe enough to walk on round the margins, it is decidedly unsafe towards the centre. In older bogs the Sphagnum has completely filled in the lake with a deep bed of peat. Nor is the bog the last stage in the succession, for as it becomes drier, the bog plants give way to mesophytes, and gradually the old lake basin is covered by a forest. In this case again we have a mesophytic formation where once we had an aquatic environment.

Where sand is washed up on a shore exposed to strong prevailing winds the fine sand is carried inland for a little distance. When this sand strikes an obstacle it is deposited and forms a little dune. More sand is carried up the gentle windward slope of this dune and rolls down the steep lee slope. Thus the dune grows and travels inland until it reaches some point where the strength of the wind is diminished so that the rate of progress of the dune is sufficiently slow to allow plants to grow on it. We then have a formation of Sand Plants. These plants tend to hold the dune in place, and gradually add humus to the sandy soil, so that in time other plants are able to grow on these dunes, which are now called "fixed dunes." In time a forest springs up—first of White Pine, Birch and Oak; and this forest is, as the soil becomes more moist by the humus formed from its debris, succeeded by a Beech-Maple forest.

In the three cases which we have considered we see that the final stage in the succession is the Beech-Maple forest. This formation is then, as far as Southern Ontario is concerned, what is called the climax formation. A climax formation, under natural conditions, is not succeeded by any other formation, but is self-

perpetuating. Where several formations, such as the aquatic habitat, the marsh and the sand dune in the cases we have considered, all tend towards one formation, we use the term convergence to designate this particular type of succession. Over most of the Dominion the climax formation is the forest, in the southern portions of the East the Beech-Maple forest, in the northern parts of the East the Spruce forest, on the Pacific Coast a coniferous forest of giant Cedars, Fir and Spruces. In the West the climax formation is the prairie.

An interesting case of succession occurs where a Pine or Spruce forest is destroyed by fire. In this case we find that the first tree growth on the burnt-over area is not Pine or Spruce, but Poplar. Later, if sufficient conifers still remain to furnish seed, the Poplar is replaced by conifers. The reason for this is that the conifers are not able to develop successfully on the open ground, that the light seeds of the Poplars carried great distances by the wind, come in, germinate and develop into trees. The Poplars act as a nurse-crop for the conifers, the young conifer seedlings developing in their shade. The Poplars are comparatively short-lived, and when the first generation of Poplars die, the young conifers have developed sufficiently to make a dense shade in which young seedlings of the Poplars cannot grow.

THE HORSE.

Lameness in Horses. X BROKEN KNEES.

"Broken knees" is a term applied to an injury, more or less severe, on the anterior aspect of the knee, usually caused by a horse stumbling and the knee coming in contact with the ground. Horses with sores, scabs or scars on their knees are considered unsound, as, while the blemish may be slight and not in the least degree interfering with the animal's usefulness, it indicates a tendency to stumble, and a stumbler is very undesirable and unsafe. Many are the explanations given by dealers to probable purchasers of horses with such marks. They are said to have broken through a stable floor, a bridge, a culvert, etc., or to have been struck or injured in various ways; but we must always look upon such blemishes as suspicious, and unless we know the dealer's veracity to be unquestionable, we are justified in doubting his explanation, and, on general principles, should not purchase a horse with such marks, as, although the seller's explanation may be quite correct, we find, when we offer the animal for sale, that our word will probably be doubted when we explain the cause of the injury. The term BROKEN KNEES is used to express even a slight injury to this part. It is not necessary for a bone or even the skin to be broken. Broken knees are of several kinds, or, in other words, the injuries vary greatly in degree. First: When the skin is bruised, but not cut. Second: When the skin is cut. Third: When the skin is cut, and more or less lacerated, the tendon passing over the front of the knee exposed and the sac that contains the synovial fluid or joint oil opened. Fourth: When the wound penetrates the tendon and exposes the bones of the joint. Fifth: When there is a fracture of one or more bones.

Treatment must, of course, depend upon the degree of the injury. Excepting for the first kind, the principal point to be observed is to keep the patient as quiet as possible, and it is usually wise to tie so that he cannot lie down.

First form.—When the skin is merely bruised, the hair having been removed by the force of contact with the ground, and a little blood oozing, there is little cause for alarm. It is good practice to give rest, with low diet, and, as in most cases when an animal is given complete rest, it is good practice to give a laxative 6 drams of aloes or a pint of raw linseed oil. The wound should be well bathed three or four times daily with cold water, and after bathing, a cooling lotion, as the ordinary white lotion, composed of one ounce each of acetate of lead and sulphate of zinc to a pint of water, should be applied. In a few days the inflammation will subside, when the animal may be put to work. The application of a little oxide of zinc ointment, two or three times daily, will encourage the growth of hair.

Second form.—When the skin is cut, the same constitutional treatment should be adopted. The patient should be tied so that he cannot lie down, the wound thoroughly cleansed, and all foreign substances, as sand, gravel, etc., removed; partially detached tissue that will not be likely to heal should also be removed. It is not good practice to stitch wounds in this locality (unless the limb can be kept straight by use of splints, which is very difficult) as the bending of the knee will surely tear out the sutures, and probably some skin with them, and thus increase the ultimate blemish. The wound should be bathed regularly, and the white lotion or a 4 or 5 per cent. solution of carbolic acid or other good disinfectant used, and the skin kept in position by bandages or plasters.

Third form.—When the skin is cut, and more or less lacerated, exposing the tendon, and the synovial bursa punctured, there will be an escape of synovia, generally called joint oil—a thin, oily-looking, somewhat straw-colored fluid. This escape of synovia need not cause alarm, as it is not open joint, the bursa that has been punctured being that which supplies synovia for the tendon where it passes over the bone, and is not in direct connection with the joint. Cases of this kind often present alarming symptoms, the limb swelling from the foot to the elbow, the knee joint becoming greatly enlarged and the discharging of synovia profuse.

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To get- to go from- which they- may be situ- and it will- sheep feed- in the cour- a flock of e- lamb crop, flock each- times betw- apart. Evi- these, nor v-