

AGRICULTURAL.

ORCHARD DESTRUCTION IN THE NORTHWEST.

There have been suggested many explanations of the well-known wholesale destruction of orchards throughout the Northwest during the past few years. One is, that some changes have rendered high ground unfit for orchards. Naturally, this has met with much opposition; for heretofore high ground has been considered the better by the rank and file of orchardists. The evidence that low ground is now the better, is not near so conclusive as many would have us suppose; nevertheless, in many cases low ground orchards have suffered the less fatality. It is not saying too much to affirm that high ground has become less adapted and low ground better adapted to orchard growth.

This being the case, it behooves us to discover what has wrought the change. My investigations have convinced me that it is not any peculiar climatic condition that is responsible. The cause lies in the soil. Orchard ground is very rarely manured sufficiently. An orchard given the manure it needs, is an exception. Trees are gross feeders, and as our orchards are planted the trees are a heavy draft on the fertility of the soil. But in addition, another crop is kept on the land. It is usually a cultivated crop (likely a vegetable crop that draws very heavily on the soil) while the trees are young, and afterward a grass crop. When land is occupied by too-exhausting crops, it certainly should be well manured. Yet the orchard is the last spot to be manured; and when it is remembered, it gets only a slight coat and very likely of manure so poor that it is not desired to use it elsewhere. That this is a fair statement of the case, can not be successfully disputed.

Low lands are being continually enriched at the expense of the high lands. The rains carry the soil from the hills into the valleys; they leach out the fertility of the soil they do not carry away, and leave it in the valley soil as they sink into the earth. This has gone on for ages before the advent of the agriculturist. When he comes upon the scene, the process is accelerated; for cultivation loosens the soil, and the rains can therefore leech out more fertility and carry away more soil. All over the world it holds true that the valleys are more fertile than the hills; and the truth becomes more striking as the land has been longer in cultivation.

PRESERVING THE FROG.

Reference is here made to that very important cushion beneath the horse's foot—the frog, so-called. If, in seeking a horse, we take up the foot and find the frog well preserved; the cushion, so to speak, wide, full and soft, the probability is that the remainder of the foot will be in good order. There may be an exception to this in the case of a used-up horse having been turned out to pasture for a period long enough to permit the frog to take on new growth. If the frog be fully protected and well maintained, the hoof will be found but little if at all contracted, for the very good reason that the hoof cannot readily contract if the frog be up to its normal size in every way. But it is the smith, the horse-shoer who ruins the frog; that is, very many of them do this. During the many years that the writer has driven horses, he has always made it a rule to be present during the shoeing, and has never permitted more than the slightest trimming of the frog, nothing more than the trimming off of insignificant parts, already detached. The smith can mutilate and seriously damage the hoof by the use of the rasp; but, fortunately the frog is proof against attacks by this instrument, and even the knife requires to be sharp, else the peculiar nature of the frog will resist. Fever in the feet is a prolific source of injury to the frog, and should be overcome at the earliest possible day. Confinement upon a dry, plank floor is damaging by keeping up too complete a state of dryness. Cutting the frog away at the time of shoeing, then setting the foot upon caulkins, in such a manner as to prevent the frog from pressing upon the ground, will, sooner or later, interfere with its development and usefulness. The most important function of the frog is to lessen the shock to the foot in its contact with the ground. This being the fact, it should be so maintained, and the shoe be so constructed that at every step the frog can come in for a fair share of the pressure upon whatever substance the horse is required to tread.

AVOIDING VERMIN.

A four years' trial of a basement room as a poultry house, with from 50 to 100 hens, ought to be long enough to demonstrate the fitness of such rooms for the purpose of sheltering poultry. During the whole of this time my poultry have been free from all diseases, and have laid well—better, I think, than I ever had hens to do before. But what is the more remarkable, my poultry have remained clear of vermin all the time. Summer or winter it is the same; there are no lice. I believe it is all due to the kind of room in which I keep them. No extra pains are taken with my poultry or the room. They are fed regularly once a day with corn and oats, and have the run of the farm and fine pickings—corn, peanuts and field peas—in the fall. The house is kept clean by sweeping and the use of plaster. I save a good deal of excellent fertilizer from my hens, but do not use them. In fact, there is no occasion for it. They are healthy and doing well, and I think it wise to "let well enough alone."

I am satisfied that my hens keep clear of vermin only because they are sheltered in a cellar. I do not know why. It may be because the walls—brick—are always slightly cool and damp, and perhaps this is repugnant to lice. Or it may be because of the uniform temperature of the room all the year round. Or it may be owing to some other cause that I have not yet found out. Be it as it may, my hens are clear of vermin, and have been for the past four years, or ever since I began to shelter them in this basement. I am disposed to think a cellar the proper place to keep poultry for several reasons.—B. W. J. Spottville, Va.

APPLES ABROAD.

The English and Scotch crops are very poor, while our representative who has just returned from the apple districts on the continent reports about half average crop. This augurs well for Canadians, especially for good early apples, which will certainly make good prices. Quality is the great thing in our markets: anything a little bet-

ter than another makes a big difference in price, more particularly at the beginning of the season.—James Lindsay & Son, Edinburgh, Aug. 7.

Our advices from 67 apple districts report the crop to be "below the average" in 46 districts; "poor" or "very light" in 9 districts; "medium" or "fairly good" in 7 districts; while in only five cases it is classed as "average" or "satisfactory." From this it will be seen that the English crop is at least a partial failure.

On the other hand, the continental crops promise well, and are likely to be both large and good. Notwithstanding this we look for a favorable reception during the season for Canadian and American fruit well packed and of good size and quality, but would strongly advise our friends to avoid shipping small or common fruit, as such is likely to yield poor results. The shipment of "summer" fruit is at all times attended with much risk, on account of its soft character, but small parcels of the best keeping varieties occasionally give satisfactory returns. J. C. HOUGHTON & Co., Liverpool, Aug. 15.

A CRAB-APPLE TREE EXPERIMENT.

J. Q. A. McCormick, of Cass Co., Iowa, gives the following as his experience with a crab-apple tree:

A Hyslop crab stood six years in well-cultivated soil, and, though each year making a very vigorous growth, did not make a show of fruiting. The tree seemed to be entirely going to wood. A friend, horticulturally inclined, suggested root-pruning. This was done by digging at one side of the tree and cutting the main, central root, about three feet below the surface. This was done September, and the tree has not missed a heavy crop in nine years. At the time of the pruning, some old iron was thrown in among the roots, by way of experiment. A somewhat remarkable effect has thus been produced, in that the color of the fruit, is a much deeper red—indeed, almost black. The tree, when in fruit, is thus a puzzle to the average man of horticultural tastes. The same farmer has noticed a change produced in the color of blue flowers by putting charcoal at the root. The color is modified to a navy-blue.

PRUNING ORCHARDS.

I will give my method. The trees should not be allowed to go as they please. Keep them low so that a man on top of an eight foot ladder can pick all the fruit. Cut out the top and centre of the tree so that the sun can get into the centre of it. This will cause young branches to grow out all along the body and main limbs of the tree, and these, when they are not expected to fruit, should be clipped off to within an inch of the stem. For every one of these cut off, from two to six more will grow out. Thus you will have a fine lot of fruit-bearing branches all along the inside of the tree. A tree thus pruned can bear up all the fruit that will grow on it; it will bear more and the fruit will be of the first quality. Herein, I believe, lies the secret of growing fine peaches.

SQUARE SENSE.

From the paper our fellow-citizen, Mr. C. B. Goodrich, gave us at the Institute we abstract a short paragraph that every dairy farmer, and every man who simply raises cows to sell, should heed, when raising a calf and feeding a cow; for starvation makes a curse that may be transmitted to the third and fourth generation, unless arrested in its downward course with good victuals and drink. Mr. Goodrich says:

"I will never again buy a cow from a man who habitually starves his cattle. You might as well try to make a whistle out of a pig's tail, as to try to make a good milker of a cow that was starved, when young, and was descended from starved ancestors, no matter how good blood was in her."—[Hoard.]

NOTES.

At our fairs it is a common thing to see several plates of apples which have no resemblance to each other, exhibited under one name. This is perhaps unavoidable, but it leads to endless confusion in the minds of amateurs. As Mr. Collins says apples from different sides of a tree may be so unlike as to deceive even an expert.

An English farmer who has been investigating the caterpillar pest, which is proving so destructive to the fruit and nut crops in Kent, has concluded that the eggs which produced the caterpillars were deposited by the swarms of butterflies which swept the coast last autumn, and which were supposed to have been driven over from the Continent by the storms.

Among the rules of a livery stable in New York where the animals of many wealthy men are kept, are the following: "No man will be employed who drinks intoxicating liquors. No man shall speak loud to any of the horses, or in the stable where they are. Horses of good blood are nervous, and loud excited conversation is felt by every horse who hears them, and keeps them all nervous and uneasy. No man shall use profane language in the hearing of horses." It would not be a bad idea if every livery stable adopted these rules. How is it in your barn, brother farmer?

How to keep milk cool without ice is a question repeatedly asked. Mr. Drummond Hay, Stockton, who has had considerable experience in Africa, has a plan that works capitally. He sets his Cooley in a tub of water at the pump, right in the sun, lays a ply or two of blanket over it and pumps water on it. This cools off the milk as fast as if it were in ice water. Of course the blanket must not be let dry. He also takes the plan indicated by Prof. Robertson, putting in one sixth water among the milk and gets as much cream from that as if it were all milk. The skim milk is of course thinner.

I chanced to meet a lady the other day who had spent three hours in churning; and the butter had not come. The cream looked nice, was about acid enough, and only two degrees too warm, but come it would not. "You try your 'J. Jones' on this cream, won't you?" said she. I added about one half its bulk of water at 60 degrees, stirred it up thoroughly and let it stand about two minutes. The result was that the water set the butter free and it all came to the top. "Now churn on the top half of the churn," said I, and in no time she had a nice batch of butter. "Yes, that did the business," she said; but my mother always said that water in cream or butter spoiled it. "What could I say? What mother 'said and done' upsets all later ideas and investigations."

"DON'T GO NEAR THE DWARFS"

The Smallest People in the World, but they use Poisoned Arrows and are Cannibals.

None of the remarkable discoveries made by explorers in the depths of Africa has ever excited deeper interest than Schweinfurth's vivid description of the Akka dwarfs whom he found in the northeastern part of the Congo basin. Living among tribes of splendid physical development, these little people, from four feet to four feet six inches in height, are noted for their courage and agility, for their prowess as hunters, and for their unusual dexterity in the use of the bow and spear. In a recent lecture in London Prof. Flower, director of the Natural History Museum, described them as the smallest people in the world, and expressed the opinion, now generally held, that they and their relatives south of the Congo are the Pigmies who were known to the Greeks and of whom Herodotus and Aristotle gave descriptions that were long believed to be fanciful.

The industry of four great travellers, who took up the work of exploration where Stanley left it, has now supplied us with considerable information about the remarkable Batwa dwarfs, who are spread in little communities right through the wooded regions south of the great northern bend of the Congo. They have been found in districts about 400 miles apart and in much of the intervening regions that are still little known. They have been studied by Wolf near the Lulua River, still further east by Wissmann in the interminable forests which sunlight hardly penetrates north of the Sankuru, by Grenfell and Von Francais on the Lubilas,

SOUTHWEST OF STANLEY FALLS.

These discoveries were made in the year 1885 and 1886, but the explorers were too busy accumulating facts to prepare them for public perusal, and we have had only the most fragmentary allusions to these unique and interesting little folks until the writings of Wolf, Wissmann, and Von Francais were published in Germany this summer.

One day Dr. Wolf was pushing through the forest east of the Lulua River, when he suddenly came upon a little glade in which were about twenty tumbledown beehive huts, the homes of the Batwa. He had seen a few of these little people, kept as hunters at the towns of big chiefs, but this was the first time he had met them in their own poorly cared for villages. Some of them could speak the language of the Bakuba, the great tribe which claims this region, but they were so awestruck by the white man's sudden advent that they would hardly utter a word. A crowd of nearly a hundred coffee-brown little folks, none of them larger than children two-thirds grown, stood timidly at a distance and surveyed the visitors in wonder. Dr. Wolf won their confidence so far at last that they permitted him to approach, and, unobserved by the natives, he took the heights of many of them on a spear shaft. These and later measurements by Dr. Wolf of full-grown adults vary from four feet three inches to four feet seven and one-half inches. The average height, according to the several authorities, seems to be about four feet five inches. Unlike the Akka, the Batwa are not unusually prognathous, nor have they disproportionately large abdomens, but they are compact, well-built little creatures, without any physical peculiarity except their small size. Lieut. Wissmann, however, received quite an unfavorable impression of the Batwa from the few specimens he saw among the Bassonge, whom he describes as dwelling in tiny huts, despised by their neighbors, ill shaped, and woebegone specimens of humanity.

All through this great forest region may be found these nomad hunters. In little bands of eight or more families they build their grass huts

WHEREVER GAME IS PLENTIFUL,

live there a few months, and then move on to other hunting grounds. Here and there in the woods they dig pits about eight feet deep, which they cover with branches and turf, and in these traps they catch elephants, hippopotami, and buffaloes, which are often impaled upon sharpened stakes driven into the bottom of the pits. They also hunt large game with the bow and spear. They cannot kill an elephant at once with their weapons, but they seldom lose an animal they once wound. Von Francais says that, lying in ambush, they attack the largest game, and follow it if necessary for days. Whenever the wounded animal halts it becomes the target for a fresh shower of spears, and finally weakened by loss of blood it falls an easy prey. The cunning Pigmies incur small loss of weapons in these long chases after elephants and buffaloes. Their arrow and spear heads are barbed and cannot drop out of the wound, neither do they lose the spear shafts, for they are fastened by stout cords to the head, and if the animal in his flight brushes against trees, the shafts, instead of falling to the ground, merely dangle against his sides.

It is not usual for explorers to find the Batwa timid and uncommunicative, like the first villagers that Dr. Wolf met. They have earned the reputation of being very ugly and pugnacious little fellows. In war they use poisoned arrows. They take the warpath at night, steal noiselessly up to the sleeping village of the enemy, fire the huts, and kill the people with arrows and spears by the light of their burning houses. Their fallen foes and their prisoners become

FOOD AT CANNIBAL FEASTS,

for the Batwa, like the Akka, are numbered among the anthropophagi of Africa. Their fame as fighters has travelled far, and the natives who accompanied Grenfell and Von Francais were panic stricken when they first saw a dwarf. One of their peculiarities is the fact that on their numerous marches they do not sleep by camp fires at night, like other natives, but stretch themselves on the branches of trees, which they clasp with arms and legs, and there peacefully and safely slumber, out of the reach of wild beasts.

"Don't go near the dwarfs," was the admonition of the Congonatives to Grenfell. "They permit no one to enter their country. They poison their weapons. They are the ugliest of mortals, and have great heads with bearded chins upon the smallest of bodies." Sure enough, Grenfell and Von Francais found beads on the faces of many a Batwa, but the heads of the dwarfs are not disproportionately large, and their features not especially ugly. Unlike the Akka, who are nearly naked, the Batwa wear a wide strip of native cloth around their loins. Unskilled in any arts save those of war and the chase, they chiefly depend for their weapons, their grain, and vegetables upon the tribes of large

people near whom they live, most of whom acknowledge their inferiority as hunters to the Batwa, and gladly encourage them to barter their loads of game for products of the garden, brass wire, and beads. The Batwa use these European

COMMODITIES TO BUY WIVES,

and throughout the wide region they inhabit they are thus becoming gradually merged with the surrounding peoples. Not a few communities of pure Batwa have been found but mixed breeds are also common. The Batwa and the Akka it is believed, are the remnants of a once very numerous race, and both are gradually dying out, victims of the more powerful tribes around them and of their inferior attainments in the arts of living. Many of the Batwa children die for lack even of such imperfect care as most savage mothers give their offspring. There seems to be little maternal affection, and in flight the tiny mothers have often been known to abandon their babies to their fate.

At the furthest points reached on both the Busera and Tchuapa Rivers, about 215 miles apart, the continued advance of the little steamer Peace was rendered impossible by the frantic hostility of the Batwa and their neighbors. Von Francais, one of the most graphic writers and accomplished geographers who have visited Africa, makes a lively picture of the howling little demons on the shores of the Busera,

SHOWING HUNDREDS OF ARROWS,

that, slimy with poison, dashed against the steel network which protected the steamer, or stuck in its wooden sun roof. He gives us a vivid idea of the agility and acrobatic accomplishments of these people 215 miles away on the Tchuapa. He saw the little warriors clambering along precipitous slopes above the river, where there seemed hardly a foothold; saw them swinging like monkeys from limb to limb of trees, and climbing out on branches overhanging the water so that they might speed their arrows at shorter range against the puffing and impertinent monster that had dared to intrude upon the privacy of the little folks. He heard their ear-splitting yells, which were wholly out of proportion to their physical insignificance. Grenfell is a man of peace, and, unlike some other explorers, he did not choose to shoot lead at them. A few blank cartridges, however, had an excellent moral effect when the enemy took to canoes and seemed bent on making a prize of the little vessel.

What is the past history of these most unique and extraordinary of African races? We are not likely to have a complete answer to this question. As yet we have had only a glimpse of them, and the study of their languages, traditions, and habits may throw light upon their past. All our present evidence points to the probability that they have descended from the earliest inhabitants of the continent. We know something of the migrations of the tribes, around them, and there may yet be found evidence to show the correctness of the hypothesis that the Akka north and the Batwa south of the Congo, the Doko of Abyssinia, the Obongo of the Gaboon, and the Bushmen of South Africa are remnants of one great family.

Swift vs Slow.

There are many things we can only understand by comparison. One of these is our idea of swiftness. The speed of the ant is swiftness compared with that of some other insects. That of man is swift compared with that of some animals, but slow compared with that of the blood-horse or greyhound.

Talk about quick transit and railway trains! Why in one minute we are whirled around on the outside of the earth by its diurnal motion a distance of thirteen miles. In the same space of time we shall also have been carried along with the earth, in its journey around the sun, 1,680 miles. Is this fast? Comparatively, yes. Yet the ray of light that meets your eye now, will in a minute be 11,600,000 miles away. How do we know all this? Ask the astronomer.

Compare this with the speed of an express train, 1 mile a minute; with that of the fastest trotter, less than 148 rods; that of the street car, about 32 rods, or the average walk of the pedestrian, 16 rods a minute.

How about vibrations? In a minute the lowest sound your ear can catch has been made by 990 vibrations, while the highest tone reached you after making 2,228,000 vibrations. This is a lesson in another kind of speed, yet the rate at which sound travels forward through the air is 65,400 feet per minute, the temperature being 32°, but this is increased 12 inches with every rise in temperature of 1°. The shot from a musket travels faster than sound, and the flash much faster than the bullet. The hurricane that levels everything before it travels at the rate of 9,000 feet in a minute.

The Russian Harvest.

An Odessa letter to the London "Daily News" says:—The abundant harvest, brilliant weather, and extraordinary demand for field labor have this season the curious effect of denuding the chief populous centres of the Taurida and Don of domestic servants. In Rostoff, for instance, there is not a cook, kitchenmaid, housemaid, or nurserymaid just now available. All are out on the Steppe harvesting. The daily remuneration too, is greatly in excess of, and in many districts double, that obtained in any previous season during the last decade. The military commandants in the southern districts are inundated with applications for assistance, varying in the number required from 100 to 1,000 men. Here the landowners have made a free gift of portions of their crops to the poorer peasantry, simply that the grain might not be lost owing to the absence of field labour. Overworked peasants in whole families have been cutting these free gift crops by moonlight or the flickering illumination of bonfires. Owing to the therapeutically approaching military manoeuvres, the district commandants have only been able to give very limited assistance. It is always very reluctantly refused, as the lion's share of the result of the military labour goes in unequal shares into the pockets of captains, majors, and colonels, with a present to the general. Hence regimental officers in the black earth regions always garner an abundant harvest. The heat here during the week has been equatorial, with scarcely a breeze or passing thunder-storm. The night brings little relief. This extreme heat destroys all hopes of next year's hay harvest except by resowing. The grass roots are already burned and withered in the soil.

Philadelphia will have twenty-seven theatres when the two now in the process of erection are completed.

A Vessel that Will Travel Under Water any Depth.

NEW YORK Sep. 1st.—The Herd's Paris special says a new submarine boat, intended to revolutionize naval warfare, is to be launched at Toulon on September 15. She is designed by Mr. Ramazote, Government engineer. She is so constructed as to be able to dive completely beneath the keel of the largest ironclad and by means of special apparatus fasten explosive cartridges to the sides of an enemy's vessel and is enabled to maintain communication with these explosive cartridges when fixed by means of a steel wire, by which the cartridges can be exploded by electricity. This new engine of destruction combines all the requisite condition of speed, steering capacity, submerison and habitability. The vessel is 17 metres long between perpendiculars and 1.80 metres beam. She is enabled to drive under water to any given depth by means of a series of reservoirs that receive water in variable quantities. Reservoirs of compressed air allow air for breathing purposes to be renewed at will. Horizontal steering is effected by an ordinary rudder. Vertical steering is effected by a double rudder working on double hinges attached to the sides of the stern. A little cupola 35 centimetres in diameter is built on her bow. It is in this cupola, provided with glass windows, that the officer in command directs the vessel. The entire crew is one officer, two engineers and a sailor. The motive power consists of Krebs's electric machine of fifty horse power. The other engines are provided with compressed air apparatus.

Value of Advertisements.

"Do I believe in advertising," said a prominent lawyer, a day or two ago. "Well, rather; and in the hidden advertisement more than in any other. I remember, one day, reading a very interesting story, that ended in what I took to be a puff for Dr. Pierce's Pleasant Purgative Pellets. I threw down the paper in a rage. Not a week after that I needed some medicine of that kind, and went and bought those same little pills. 'Did I find them good?' 'Why, yes, but the best thing of the kind I ever saw, but that has nothing to do with the first question, and I only mention the joke on myself to show that advertising does pay.'"

True goodness is like the glow-worm is this, that it shines most when no eye except those of Heaven are upon it.

Too well known to need lengthy advertisements—Dr. Sage's Catarrh Remedy.

Most men expend the early part of their lives in contributing to render the latter part miserable.

At first a little, hacking cough,
"Tis nothing but a cold,"
They say, "Till very soon wear off."
Alas, the stry! old!
The hectic cheek, the falling strength,
The grief that cannot save,
And life's warm flame goes out at length,
In a consumptive's grave.

If persons would use Dr. Pierce's Golden Medical Discovery, when irritation of the lungs is indicated by a cough, it would be an easy matter to avert consumption. Be wise in time.

Charity is like money—the more we stand in need of it, the less we have to give.

Harvest Excursions to Minnesota, Dakota and Montana. First class accommodation. Tickets good for 30 days, including stop over privileges of 10 days going and 5 days returning, on the following dates: Tuesday, Sept. 11; Tuesday, Sept. 25; Tuesday, Oct. 9 and Tuesday, Oct. 23. For free maps, books and all particulars, address J. M. HUCKINS, Trav. Pass. Agent, Palmer House Block, Toronto; F. I. Whitney, Gen'l Passenger and Ticket Agent; A. MANVEL, General Manager; J. BOOK-WALTER, Land Commissioner; W. S. ALEXANDER, General Traffic Manager, St. Paul, Minn.

A smile may be bright while the heart is sad. The rainbow is beautiful in the air while beneath is the moaning of the sea.

A Cure for Drunkenness.
The optimum habit, depressing the morphia habit, nervous prostration caused by the use of tobacco, wakefulness, mental depression, softening of the brain, etc., premature old age, loss of vitality caused by over-exertion of the brain, and loss of natural strength, from any cause whatever. Men—youth, old; middle-aged—who are broken down from any of the above causes, or any cause not mentioned above, send your address and 10 cents in stamps for Lubber's Treatise, in book form, of Diseases of Man. Books sent sealed and secure from observation. Address M. V. LENOZ, 47 Wellington street East, Toronto Ont.

While the gift of conversation proves a clever man, the want of it is no proof of a dull one.

Harvest Excursions.

The Chicago & North-Western Railway Company announces a series of harvest excursions to points in Iowa, Minnesota, Dakota and Nebraska, for which tickets will be sold September 11th, September 25th, October 9th, and October 23rd, at the rate of one fare for the round trip. These excursions will afford exceptional opportunities for personal inspection of the productive country reached by the Chicago & North-Western Railway lines. For full information address E. P. Wilson, General Passenger Agent, Chicago.

Real glory springs from the silent conquest of ourselves, and without that the conqueror is naught but the first slave.

A. P. 415.

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