



time contain so much carbonic dioxide, as to be unfit for respiration...

Prof. Tenney in treating of organic agencies says: "I ought to notice the fact that every branch upon the tree, every twig upon the branch, every leaf upon the twig, and the sepals, petals, and stamens of every flower are arranged with mathematical relations to each other..."

But plants breathe only in light. In the darkness of night carbonic dioxide passes off as it enters. Sunshine is required to decompose it, so that it may enter into the growth of the plant.

In our next we will examine the elements of plant life separately.

TABLE SHOWING THE AMOUNT OF SEED NECESSARY FOR AN ACRE, AND THE NUMBER OF BUNDS TO THE BUSHEL.

Table with 2 columns: Seed Name, Amount per Acre / Bundles per Bushel. Includes Red Clover, White Dutch Clover, Lucerne or Alfalfa, etc.

TABLE SHOWING THE NUMBER OF PLANTS OR TREES TO BE PLANTED AT GIVEN DISTANCES.

Table with 2 columns: Distance Apart, No. of Plants. Shows increasing number of plants as distance decreases.

QUANTITY OF SEED REQUIRED FOR A GIVEN LENGTH OF DRILL.

Table with 2 columns: Plant Name, Quantity of Seed. Lists Asparagus, Beans, Barrow, etc.

AVERAGE QUANTITY OF SEED SOWN TO AN ACRE, IN DRILLS.

Table with 2 columns: Plant Name, Average Quantity of Seed. Lists Dwarf Beans, Early Peas, Marrowfat Peas, etc.

QUANTITY OF SEED REQUIRED FOR A GIVEN NUMBER OF PLANTS.

Table with 2 columns: Plant Name, Quantity of Seed. Lists Asparagus, Cabbage, Cauliflower, Celery, etc.

QUANTITY OF SEED REQUIRED FOR A GIVEN NUMBER OF PLANTS.

St. Louis, April 6.—At a meeting of freight agents here to-day, to adjust freight rates from St. Louis and Chicago to Western points...

BROOM-CORN.

From the report of the Department of Agriculture, we take the following upon the subject of broom-corn:

It is but a very few years since the importance of the extensive cultivation of broom-corn has attracted the attention of either the farmer or manufacturer...

For broom-corn the land should be plowed in the fall. This attains two objects; the frosts of winter ameliorate and make friable the soil...

Broom-corn will grow from eight to twelve feet high, and its brush should be two feet long. This, however, is dependent in a great degree upon the quality of the soil...

The character of broom-corn has, of late years, been much improved in length and stiffness, and persons desirous of raising it should pay much attention to the character of the soil...

FALL VS. SPRING PLANTING.

The principle through which successful propagation of plants, by artificial means is insured, is a temperature of the soil in which the cutting is inserted...

NOW A TREE TRANSPLANTED EARLY IN THE FALL.

has the advantage of having its roots in warm soil, while its top is in the cool atmosphere, conditions almost analogous to the artificial means adopted by the propagator.

TREES TRANSPLANTED IN THE SPRING

have the reverse conditions of the fall planting to contend with, viz.: a high atmospheric temperature, tending to develop foliage, and a low temperature of the soil, retarding root growth...

EVERGREENS MUST

sustain their foliage at all times, hence they are best transplanted late in the spring, just before growth commences...

As an example of the growth of the Southwest the Wichita Eagle says that one day this week quarter sections were taken and filed upon in Sedgwick county...

LESSONS FOR THE PEOPLE IN ENTOMOLOGY.

BY E. A. POPEONE.

No. 2. DIRECTIONS FOR COLLECTING AND PRESERVING INSECTS.

For collecting insects a few simple tools are desirable if not indispensable. The first requisite is a receptacle for the captured insect.

For the capture of those insects that fly readily, and cannot be easily taken by the fingers, a net is very useful. A foundation or frame may be made by forming a loop or ring about eight inches or a foot in diameter...

After the specimens are quite dead, which will be in about an hour after exposure to the fumes of the cyanide, they are to be pinned.

In all cases the pin should project about one-fourth its length above the back of the insect, and uniformity in this point will give a neat appearance to the collection...

For the proper arrangement of the wings of the butterflies, moths, dragon-flies, and other insects, where it is desirable to show the wings, a stretching board is necessary.

The insects belonging to this sub-order are known by the upper pair of wings being usually hard and shelly, sometimes leathery and flexible, but always forming a cover for the lower pair, which are membranous when present.

Strips of cork or cornstalk pith to hold the pins, should then be glued on below so as to close up the space, leaving a groove above, in which the body of the insect lies.

Pinned insects are best kept in some kind of shallow, closely-covered box having a lining of cork or cornstalk pith in the bottom...

A good and cheap box may be made in the form of two parts, a top and bottom, each measuring about one and three-quarter inches deep inside and about twelve inches wide by sixteen long.

Those desiring to make extensive collections will probably want a regular cabinet; which consists of a case with folding doors, enclosing a convenient number of shallow drawers...

These desiring to make extensive collections will probably want a regular cabinet; which consists of a case with folding doors, enclosing a convenient number of shallow drawers...

These sections are distinguished by the structure of the mouth parts of the insects composing them. The sub-orders are founded upon the structure and number of wings.

CLASSIFICATION OF HEXAPODOUS TRUE INSECTS

SECTION 1st. Mandibulate or Gnawing Insects—mouth furnished with mandibles or jaws. A. Upper wings horny or leathery in texture, under wings membranous.

SECTION 2d. Haustellate or Sucking Insects. The mouth consolidated into a proboscis or sucker. A. Wings four. B. Wings covered with bran-like scales.

SECTION 3d. Hemiptera. The mouth consolidated into a proboscis or sucker. A. Wings four. B. Wings covered with bran-like scales.

SECTION 4th. Diptera. The mouth consolidated into a proboscis or sucker. A. Wings two, membranous. B. Wings two, membranous.

SECTION 5th. Coleoptera. The mouth consolidated into a proboscis or sucker. A. Wings two, membranous. B. Wings two, membranous.

The first of these sub-orders, the Coleoptera, is composed of a great number of species;—in America north of Mexico, the number is given as about 7,500.

The insects belonging to this sub-order are known by the upper pair of wings being usually hard and shelly, sometimes leathery and flexible, but always forming a cover for the lower pair, which are membranous when present.

The under wings are usually found if the elytra are raised, but in some species living under stones or in the ground they are wanting.

Most Coleoptera when viewed from above, present but the upper surfaces of the head, prothorax and elytra and also what is called the scutellum.

From below are seen the under surfaces of head (consisting of the gula or throat and the under surfaces of the parts composing the mouth), thorax and abdomen.

of the thorax of which they are a part. Behind the meta sternum is a part, usually small and unimportant, but sometimes conspicuous and of value in classification, which is called the hind coxal plate.

The antennae of coleoptera are usually composed of eleven joints, and the most common shape is that which has been described as filiform. They vary much in length and form however, and all the principal kinds of antennae described in the last number are found in this sub-order.

SHEEP FOR PROFIT.

EDITOR FARMER.—I wish to answer some of the inquiries of C. S. L., in the FARMER in regard to sheep raising.

First, as to the price of sheep, so much depends on quality, age, condition, etc., that I can only approximate an intelligent answer by saying from three to four dollars per head, at this time of the year.

The scab though a more formidable disease, is contracted only by contact, is dangerous only in shiftless hands, and yields readily to proper treatment.

Rye is the very best winter feed; with it they will keep fat, shear heavy fleeces and maintain perfect health, though the flock should be bought to it by degrees until they get used to this succulent food.

I have kept sheep in the States of New York, Michigan and Iowa, and I find Kansas a much better State for the business than either of the above named ones.

TIME FOR COWS TO COME IN.

A cow that drops her calf in April is of more profit than one that comes in early in the year, with same care and feed. If your cows drop their calves in February, or the first part of March, you will have to feed largely with grain roots, etc.

All cows in a herd should drop their calves as near the same time as possible. If one should drop her calf after you have commenced to pack and put away butter, do not put her milk with the rest for two weeks or more, as it is impossible to keep butter made from it, and it will damage the rest.

DEATH OF RYSDYK'S HAMBLETONIAN.

Rysdyk's world-renowned stallion Hambletonian died at Chester, Orange county, early yesterday morning. The horse was about thirty years of age.

Before Mr. Rysdyk's death, he selected a place where the old horse was to be buried in a fenced-in lot, with an appropriate headstone. He left a clause in his will, that under no circumstances should the horse's remains be mutilated after death.

Hog management.—A correspondent, writing from Hillboro, Ill., sends the following suggestion to the Stock Journal as to the management of hogs: Hog cholera is caused mainly by indigestion, and can be more easily prevented than cured.

ringing and cutting the noses of hogs, thus preventing them from rooting for the tonics that they need to give tone to the stomach, is one of the most prolific sources of this disease; and when they are deprived of many of these tonics for themselves, they must be furnished. Give clean water for drink, and furnish a plentiful supply of charcoal; also let them have access to stone-coal, woodsheds and salt.











