

**Agricultural Department**

How to Grow and How to Store Celery.

Assuming that the plants were started in a hot bed in March or April, and that they are "stocky," they may be transplanted early in July into the trenches. These should be dug to a depth of two or more feet, then filled to within a foot of the top with equal parts of well rotted manure and rich earth. If the seed-beds are thoroughly soaked the plants can be moved with little injury to the roots. "Vias" in his excellent *Monthly Magazine*, says: "Sort them (meaning the plants) so that all in one row will be of about equal height, as this is often of considerable advantage in after culture and earthing up. Disturb the roots as little as possible, and break off only any straggling leaf or bruised leaf-stalk. Round up the earth in the bottom of the trench, so that any earth washing from the sides will fall in the little alleys, and not smother the plants.

If the work thus far has been well done the plants will need but little more care until late in the autumn. Hoeing will be necessary to lighten the earth, or a soaking of water once or twice during the summer, in a dry time, but hoeing is better than watering. Do not earth up until October, but add a little earth occasionally when hoeing, as you would hoe corn. Never touch or hoe Celery when damp with dew or rain, or on misty days, and always avoid getting soil into the heart of the plant. Make the trenches five feet apart, and set the plants in rows of two feet apart. In September or October earth up to the lowest leaf, but cover no leaf. In two weeks another banking will be necessary.

Before hard frosts Celery must be stored for winter, and this is an important matter, for it is easy to destroy a good crop by improper treatment. We will give two plans, either of which is good, or, at least, has succeeded with us. Dig a trench about the width of a garden, and a few inches deeper than the height of the celery. The place selected must be high ground, where no water will be at the bottom, and where surface water will not drain into the trench. Take up the plants with care, so that they adhere to the roots. Set the stalks close together, and close to the sides of the trench, but do not press them in. After the trench is filled, place pieces of board or scuffling across it at intervals of two or three feet. On these place boards five or six feet long, covering the entire trench. Then cover the boards with straw or leaves before very severe frost, but not until the ground is pretty well frozen, and keep the straw or leaves in place. The work is then completed. When celery is needed, take up a length of short boards, and remove enough celery to the cellar to last a few days, and place it in the coolest part of the cellar with care. Replace the boards and covering as before.

Another way is to select a place on sloping ground, and this is best for either plan. Dig a trench two feet deep, and one foot in width. Place the celery plants in this trench, throwing in the earth and treading it firmly around the roots to a depth of about six inches. For the remainder of the distance throw in the earth lightly, so that the trench is filled to the tops of the leaves with a few inches above the trench, on the surface of the ground. As many trenches as are needed are made, about a foot apart. When the ground has frozen about three inches deep, cover the bed with straw. Celery must be free from moisture when stored for winter, or it will be likely to rot. Dig at any time, taking up enough for a week or so at a time. It can be kept in a cool place in damp weather, but a good way is to wash the stalks entirely clean without cutting the roots, then stand them erect in a barrel and pour in cold water some three inches in depth, or more, so as to just cover the roots, and set the barrel where it will be as cold as possible without actually freezing. In this condition it will keep fresh for eight or ten days.

In handling celery the greatest cleanliness must be observed. No dirt water is allowed to come in contact with the tender parts, great injury, both to plant and appearance, is the inevitable result. What kinds shall we plant? Is a question not very difficult to answer for we now have so many good sorts that the old, poor ones are pretty much discarded. We are partial to the dwarf kinds. The pink and red sorts are beautiful, but just as good as the white. We also show the turk-top-rooted variety, the bulbous root only being eaten.

**FAILURES IN TREE PLANTING.**—There are various causes of failure in setting out trees. Taking them up badly; clipping off the roots too much; allowing them to dry before planting; leaving too much head; neglect of the preparation of soil; digging the holes too small; omitting to press the earth firmly around the roots; allowing the wind to move them backward and forward, disturbing the fibers. This is a sufficient formidable catalogue of evils, but there is yet another cause of failure, and that is planting too deeply. On an account should a tree ever be planted lower down in the earth than it was before, and if moved from a dry soil to a moist one, it should be set shallower. In fact it is better to err, if at all, on the side of shallowness, because the law of growth will deflect that evil, while there is no remedy for too deep planting. A tree soon adapts itself to its position, if not set too far down into the ground. When the surface is dry, the roots naturally descend in search of moisture, and will keep growing down till they find it. When the soil is wet the roots will grow along the surface. Too deep planting, therefore, is a mistake. The roots are out of reach of sun and air, and though the tree may struggle for awhile it will eventually die. To guard against the effects of the shallow planting, stakes must be put down and the tree fastened to them. They will soon become strong enough to stand alone.

**A GOOD PUDDING.**—One dozen crackers rolled fine, one cup of raisins, three eggs; soak the crackers in milk, then add one-half cup of molasses, one cup of sugar, and the eggs and raisins; then bake one-half hour.

**CUBAN ICE.**—Boil down three parts of water and a pound and a half of sugar to one quart, skim, add two tea-spoons of currant-juice, and when nearly frozen, add the whites of five eggs.

**Educational Department**

Committee of Associate Editors.

Communications may be sent to either of the above editors, as may be preferred, and will appear in the issue of which they are written. E. E. QUINLAN, Editor.

**TEACHERS' INSTITUTE.**

MEETINGS OF THE SECOND WEEK'S SESSION.

The second week's session of the Bradford County Teachers' Institute convened at the High School building, Towanda, Monday, August 10th, at 8 o'clock A. M. Devotional exercises conducted by Mr. E. L. Hillis. In Reading, Mr. Hillis gave an outline of expression; also, many valuable suggestions upon the manner of reading and speaking. In Arithmetic, Mr. Brown explained the rule for finding the area of a trapezoid. Mr. Bovingdon gave the rule for finding the square root, together with an explanation of it. Mr. Crawford gave a very clear explanation of Percentage. Class drill; subject—Arithmetic. In the absence of the regular instructor, Mr. Will took up the subject of History, and gave an outline of the different colonial governments.

**AFTERNOON SESSION.** In Grammar, Prof. Quinlan gave the outline of the Adjective, and the methods of teaching it. Mr. Keeney gave the analysis of the object, with diagrams illustrating it. Class drill; subject—Grammar. In Penmanship, Mr. Head gave several methods of keeping up an interest in the class; he also commenced the analysis of the capital letters. In Geography, Prof. Ryan gave the method of drawing and teaching Africa. Class drill; subject—Geography. Mr. Will gave in connection with Spelling, the sounds of letters.

**EVENING SESSION.** Superintendent Ryan suggested that the evening session be a practical one, and that some of the important parts of the institute work be reviewed. Mr. F. E. Thompson explained the method of writing decimals. Mr. Champlin, the method of reducing a common fraction to a decimal. Mr. Wells, the division of decimals. Mr. Leonard, the division of common fractions. Mr. George Marshall also gave a very excellent method of dividing a fraction by a fraction. Several questions, handed to the Superintendent for answers, were discussed by the Institute, as follows: "How far should children advance in reading before taking a spelling book?" Prof. Quinlan said he would have children spell the difficult words in their reading book, and would not give them a spelling until they reached the third or fourth reader. "In a school of fifty scholars, could much be done in history if the scholars had no text books?" Mr. Keeney said he would require pupils to have note-books, and when they heard anything which was new to them, they should record it in their books; in this manner, if the teacher was particular to mention historical facts, the pupils would soon obtain a general idea of History. "Should singing be taught in schools?" One gentleman answered "Yes," saying that he could teach singing as readily as he could the sounds of letters. Hon. George Murphy gave an outline of the subject of "Civil Government." Mr. Hillis favored the Institute with a select reading. Mr. LeGrande Brewer gave a declamation "The Brave Boy," in a manner which reflected great credit upon himself.

**DEVOTIONAL EXERCISES.** Conducted by Mr. Hillis. In reading, Mr. Hillis took up the subject of Emphasis, Pitch, and Inflection. Class drill; subject—Reading. In Arithmetic, different members of the Institute gave the explanation of the right angle triangle, similar surfaces, and similar solids. Mr. F. E. Thompson gave the method of solving simple interest. Prof. Quinlan gave the outline of the subject of "Civil Government." In History, Rev. Mr. Craft gave a brief review of the fourth period; also, an outline of the fifth, or First Constitutional period.

**AFTERNOON SESSION.** Mr. Keeney gave in Analysis, the definition of simple interest, illustrating the different classes of complex sentences. Prof. Quinlan gave the outline of the verb, with the method of teaching it by topics. Class drill; subject—Grammar. In Penmanship, Mr. Head continued the analysis of the capital letters; he also gave a brief outline of the manner in which the penmanship class should be given. In Geography, Hon. George Mosier gave the outline of Asia; Rev. Mr. Craft explained the changes of the seasons, by use of the globe. Prof. Ryan briefly about the drawing of the hemispheres on the board, and drilling the pupils on the latitude and longitude of different countries. Class drill; subject—Geography.

**EVENING SESSION.** Mr. Crawford explained, by the use of the blocks, the rule for extracting the cube root of any number. Prof. Ryan gave a short address on "The Air We Breathe," accompanied by philosophical experiments, illustrating the pressure, weight, force and properties of common air.

**WEDNESDAY MORNING.** Devotional exercises conducted by Rev. Mr. Craft. Mr. Hillis continued the subject of reading, drilling upon Pitch, Punctuation, Quality, and Rate. Class drill; subject—Reading. In Arithmetic, Mr. Brown gave the rules for finding the convex surface of the frustum of a cone or pyramid. Prof. Ryan explained the rule for Equating of Payments. Class drill; subject—Arithmetic. In History, Rev. Mr. Craft gave a brief review of the fifth period, with several sub-divisions.

**THURSDAY MORNING.** Devotional exercises conducted by Mr. Hillis. In Reading, Mr. Hillis gave a brief review of the instruction given during the week; he also called upon different members of the Institute to read certain passages selected by him. In Arithmetic, Mr. F. E. Thompson, Mr. McKee, Mr. Crawford, Mr. Webster, and Mr. Brown explained the different cases in Allegation. Class drill; subject—Arithmetic. Rev. Mr. Craft continued the

**Subject of History, giving the outline of the "Slavery Agitation," which embraced the period from 1821 to 1861.**

**AFTERNOON SESSION.** Prof. Quinlan continued the subject of Grammar, giving the outline of the Adverb, Preposition, Conjunction and Interjection. Mr. Keeney finished the subject of Analysis, and had a short review of what had been previously given. Mr. Head gave in Penmanship a review of the instruction which he had presented during the Institute. Prof. J. T. Burgan took up Mathematical Geography, giving many valuable thoughts in regard to this important subject. Superintendent Ryan suggested the order of exercises be changed, by having a "spelling match," for which the following prizes were offered: (1) Webster's Unabridged Dictionary, (2) Set of Swinton's Geographies, (3) Set of Swinton's Histories. A committee of five, appointed to prepare the words, pronounced 100 words, which were in common use.

**EVENING SESSION.** Mr. F. E. Thompson explained the rule for finding the Least Common Multiple of whole numbers. Prof. Burgan gave his method of teaching arithmetic to small pupils. The question was asked, "Should pupils be required to commit all the rules in Arithmetic?" This elicited a very interesting discussion; one gentleman said the rule should be explained, and after the scholar thoroughly understood the principles of the rule he should be required to memorize it. "Would you inflict corporal punishment in the government of your school?" It was decided that the teacher should maintain his authority peacefully, if he can be taught, if he must. "Should children be forced to read by the Word and Phonics method?" Several teachers discussed this question. The advocates of the Word method spoke earnestly and to the point, and many present were convinced that this method was far better than any ever before used in our public schools. Mr. Hillis favored the Institute with select readings.

**FRIDAY MORNING.** Devotional exercises conducted by Mr. Hillis. For the benefit of those teachers who were not present at the first week's session, Mr. Hillis reviewed the subject of Orthography, as presented by him at that time. Prof. Burgan explained the principles of Arithmetic and Geometrical progression. Superintendent Ryan asked an expression from the teachers present, in regard to the Teachers' Institute for 1878-80; they were almost unanimously in favor of a two weeks' session at Towanda, in August, 1879. Superintendent Ryan gave some valuable instruction in regard to the making of a school programme. Prof. J. T. Burgan, J. S. Crawford, J. T. McCollom, Mrs. P. C. Dayton and Miss Ella Spaulding were elected a committee on permanent certificates.

**AFTERNOON SESSION.** Prof. Quinlan and Mr. Keeney reviewed briefly the work given by them in Etymology and Analysis. The Superintendent announced that the annual examination of teachers in the public schools would be held as follows:

For Athens and Litchfield twp., at Athens Graded School, Sept. 24th; for Shepley and Ulster, at Lower Valley School, Shenegu, Sept. 25th; for Monroe, at Graded School, Monroeton, Sept. 26th; for Fulton and Albany, at School No. 1, Orwell, Sept. 27th; for Terry and Wilmet, at New Era, Sept. 28th; for Drive Boy, in a manner which reflected great credit upon himself.

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Shoulders... 75 cents

Georgia Codfish... 65 cents

Blackberry... 65 cents

Blackberry... 65 cents

Blackberry... 65 cents

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Blackberry... 65 cents

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New Firm, NEW GOODS, New Prices.

The above named firm has just opened, at the old and well-known stand of C. B. FATCH,

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