BELLEFONTE & SNOW SHOE R. R.—Time-Table in effect on and after May 1, 1880:

Leaves Snow Shoe 7.20 A. M., arrives in Bellefonte 9.10 A. M.
Leaves Bellefonte 10.25 A. M., arrives at Snow Shoe 11.57 A. M.
Leaves Snow Shoe 2.00 P. M., arrives in Bellefonte 3.45 P. M.
Leaves Bellefonte 5.15 P. M., arrives at Snow Shoe 6.57 P. M.

DANIEL RHOADS,
General Superintendent.

BALD EAGLE VALLEY RAILROAD.—Time-Table, April 29, 1880:

Exp. A. M.	Mail. P. M.	WESTWARD.	EASTWARD.	Exp. P. M.	Mail. A. M.
8 10	6 32	Arrive at Tyrone	Leave	7 8	8 20
8 3	6 25	Leave East Tyrone	Leave	7 15	8 27
7 59	6 21	" Vail	"	7 19	8 31
7 55	6 17	" Bald Eagle	"	7 23	8 37
7 48	6 9	" Fowler	"	7 33	8 46
7 42	6 3	" Hannah	"	7 36	9 7
7 35	5 55	" Port Matilda	"	7 44	9 16
7 27	5 47	" Martha	"	7 52	9 28
7 18	5 38	" Julian	"	8 1	9 40
7 9	5 27	" Unionville	"	8 11	9 43
7 00	5 18	" Snow Shoe In	"	8 21	9 51
6 56	5 15	" Milesburg	"	8 24	9 55
6 46	5 5	" Bellefonte	"	8 32	9 51
6 36	4 55	" Milesburg	"	8 45	10 3
6 25	4 45	" Curtin	"	8 55	10 14
6 18	4 40	" Mount Eagle	"	9 00	10 19
6 9	4 31	" Howard	"	9 8	10 29
5 55	4 20	" Eagleville	"	9 18	10 42
5 50	4 15	" Beech Creek	"	9 22	10 47
5 34	4 3	" Mill Hall	"	9 34	11 00
5 29	4 00	" Flemington	"	9 37	11 4
5 25	3 55	" Lock Haven	"	9 42	11 8

PENNSYLVANIA RAILROAD.—(Philadelphia and Erie Division.)—On and after December 12, 1877:

WESTWARD.

ERIE MAIL leaves Philadelphia........ 11 55 p m
" " Harrisburg........ 4 25 a m
" " Williamsport........ 8 35 a m
" " Lock Haven........ 9 40 a m
" " Renovo........ 10 55 a m
" arrives at Erie........ 7 35 p m
NIAGARA EXPRESS leaves Philadelphia........ 7 20 a m
" " Harrisburg........ 10 50 a m
" " Williamsport. 2 20 p m
" arrives at Renovo........ 4 40 p m
Passengers by this train arrive in Bellefonte at........ 4 35 p m
FAST LINE leaves Philadelphia........ 11 45 a m
" " Harrisburg........ 3 35 p m
" " Williamsport........ 7 30 p m
" arrives at Lock Haven........ 8 40 p m

EASTWARD.

PACIFIC EXPRESS leaves Lock Haven........ 6 40 a m
" " Williamsport........ 7 55 a m
" arrives at Harrisburg........ 11 55 a m
" " Philadelphia........ 3 45 p m
DAY EXPRESS leaves Renovo........ 10 10 a m
" " Lock Haven........ 11 20 a m
" " Williamsport........ 12 40 a m
" arrives at Harrisburg........ 4 10 p m
" " Philadelphia........ 7 20 p m
ERIE MAIL leaves Renovo........ 8 35 p m
" " Lock Haven........ 9 45 p m
" " Williamsport........ 11 05 p m
" arrives at Harrisburg........ 2 45 a m
" " Philadelphia........ 7 00 a m
FAST LINE leaves Williamsport........ 12 35 a m
" arrives at Harrisburg........ 3 58 a m
" " Philadelphia........ 7 35 a m

Erie Mail West, Niagara Express West, Lock Haven Accommodation West, and Day Express East, make close connections at Northumberland with L. & B. R. R. trains for Wilkesbarre and Scranton.

Erie Mail West, Niagara Express West, and Erie Express West, and Lock Haven Accommodation West, make close connection at Williamsport with N. C. R. W. trains north.

Erie Mail West, Niagara Express West, and Day Express East, make close connection at Lock Haven with B. E. V. R. R. trains.

Erie Mail East and West connect at Erie with trains on L. S. & M. S. R. R., at Corry with O. C. & A. V. R. R., at Emporium with B. N. Y. & P. R. R., and at Driftwood with A. V. R. R.

Parlor cars will run between Philadelphia and Williamsport on Niagara Express West, Erie Express West, Philadelphia Express East and Day Express East, and Sunday Express East. Sleeping cars on all night trains.

WM. A. BALDWIN,
Gen'l Superintendent.

The Centre Democrat.

BELLEFONTE, PA.

AGRICULTURAL.

NEWS, FACTS AND SUGGESTIONS.

THE TEST OF THE NATIONAL WELFARE IS THE INTELLIGENCE AND PROSPERITY OF THE FARMER.

Every farmer in his annual experience discovers something of value. Write it and send it to the "Agricultural Editor of the DEMOCRAT, *Bellefonte, Penn'a," that other farmers may have the benefit of it. Let communications be timely, and be sure that they are brief and well pointed.*

THE beneficial effects of mulching are very evident to every one who has practiced it, but the whys and wherefores of it we have never seen satisfactorily explained. In another column of this number we quote from the *Tribune* a synopsis of a very interesting paper on the Science of Mulching, from the pen of Mr. W. W. Newman.

THE Legislature of New York has taken a most important step towards furthering the farming interests of that great State, in the establishment of an Agricultural Experiment Bureau, and providing an annual appropriation of $20,000 for its use. The management of this enterprise rests in a Board of Control, constituted somewhat like our State Board of Agriculture, and including some of the best names among New York farmers. We congratulate our farming brethren of New York upon the wisdom of their Legislature. It is to be regretted that our own law makers have been so pre-occupied with other matters as to be unable to profit by the good example thus set them. In speaking of this matter the *Record* says: The leading idea of this movement is, in brief, to enable the farmers of the State to get the best crops at the least cost. To this end careful experiments will be made with seeds, manures and artificial fertilizers, soils will be tested and information will be collected and disseminated as to the best methods of farming, including the reduction of noxious weeds, the destruction of harmful insects and the utilization of wasteful products. Everything that pertains to the economy of the farm will receive attention. Great advantage will undoubtedly result to the agricultural interest.

Experiment stations of the kind contemplated in New York have been for some time established in Connecticut and North Carolina, while something in that direction has been done in New Jersey. In Germany, where the system originated, there are seventy-five of these stations, and several of them are in operation in Italy, Austria, Sweden and other countries. The Connecticut station is asserted to have been worth half a million dollars to that State, and a quarter of a million is claimed to have been saved to the farmers of North Carolina by the station established there. The exposure of frauds in fertilizers is one important province of these stations. Some samples analyzed in Connecticut were found to consist almost wholly of worthless sand or ashes, and similar results attended the tests of commercial manures in North Carolina.

Agriculture is the foremost of human industries. It is the one interest, in fact, on which all others depend. Whatever advances it necessarily benefits the entire community, and it is every way proper and desirable that it should share in the progress and improvement which the application of scientific principles and processes has so liberally brought to the other avocations of mankind.

Lubricators for Farm Wagons and Machinery.

A correspondent of the *Tribune* writes to that paper as follows:

A few weeks ago you quoted a recommend of castor oil as *wagon grease*. Are you sure that was good advice? Is not castor oil too glutinous; does it not soon get gummy and sticky, therefore cease to lubricate or enable the wheel to turn easily? Do you think there is a machinist in the country who uses castor oil as a lubricator on any machine, whether the bearings be large or small, whether the motion be fast or slow? Please give us another article on a good lubricator for wagons:

Most farm wagons are now made with iron spindles and boxes, and for these, as for all farm machinery, we believe that castor oil is the *best* lubricator, and this belief is based upon an experience of nearly ten years. For wagons we use the castor oil pure and simple, and unrefined. For the farm machinery of all descriptions, "whether the bearings be large or small, whether the motion be fast or slow," we add to the castor oil a proportion of common coal oil, which is greater or less as the bearings are large or small, the motion fast or slow, and the weather hot or cold. In comparison with a half-dozen other lubricators which we have been induced to try, this proves most satisfactory.

When to Sell Wheat.

In a question of so much importance the experience and observation of the individual farmer may not always prove to be the best possible guide. Indeed it is quite possible that the carefully kept records of those who are in a position to know the fluctuations of the markets from day to day and week to week, may bring the farmer to conclusions quite opposite to those he would deduce from his own experience. The Onondaga Farmer's Club, which is one of the few live, practical clubs of the country, lately invited Mr. E. M. Gibson, commercial editor of the *Syracuse Journal*, to read them a paper upon the statistics of the wheat trade, and the *Tribune* summarizes the paper so far as it relates to this branch of the subject as follows:

The statement of prices by months is instructive, showing that the highest rate prevails in May, when the crop prospects of the year are as yet uncertain. It indicates that a condition of incertitude is more favorable to speculation than the most discouraging reality. June is next to May in elevation of prices; then July, by which time the pouring in of new grain makes the prices of August the lowest of the year. The rate then slowly rises through September, October and December. Then the closing of navigation and the raising of railroad freights depress prices below the October level, but in February they rally to an equality with the quotations of July. Farmers would do well to note these facts, and sell before the setting in of winter, unless they can afford to wait till spring and get the benefit of highest prices. But there are contingencies—war in Europe, "wheat corners" made by home speculators, and minor causes of difference—that may change the average course of the market. To hold means loss of interest, danger from heating in elevators and from mice and insects in granaries. It is a question that should be wisely considered by the farmer in view of his own immediate wants and the risks of the future. As a rule, it is generally safer to sell when the crop is ready for the market, unless there is a glut and prices exceptionally low.

Upon this same subject we find, in the current number of the *American Farmer*, a tabular statement of the average price paid per month for the past fifteen years, at a prominent mill in Maryland. It will be seen by this table that the lowest price during the year is in the months just following harvest—August and September—and that the highest, by 13 cents per bushel, is in the month of April. Whether this gain of something more than seven per cent. in price is not more than offset by the loss of interest, shrinkage, saltage, and risk of destruction by fire, is a question for each farmer to decide for himself, but we are very much inclined to agree with Mr. Gibson when he says that "as a rule, it is safer to sell when the crop is ready for market, unless there is a glut, and prices are exceptionally low:"

YEARS.	July	August.	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	Average per year.
1865-66	2 68	2 80	2 86	2 92	2 85	2 30	2 40	2 42	2 35	2 40	2 45	3 00	2 62
1866-67	2 90	2 98	2 95	3 10	3 35	2 90	3 28	3 10	3 40	3 50	3 35	3 30	3 26
1867-68	2 55	2 45	2 45	2 70	2 65	2 70	2 80	2 90	3 05	3 05	2 95	2 85	2 76
1868-69	2 48	2 65	2 48	2 50	2 30	2 35	2 20	2 00	2 12	2 10	1 85	1 52	2 21
1869-70	1 58	1 50	1 55	1 42	1 40	1 28	1 40	1 32	1 28	1 34	1 45	1 52	1 75
1870-71	1 78	1 60	1 50	1 54	1 50	1 54	1 52	1 70	1 68	1 58	1 55	1 65	1 59
1871-72	1 50	1 40	1 55	1 65	1 70	1 75	1 75	1 70	1 80	1 85	2 30	2 15	1 76
1872-73	1 64	1 78	1 85	1 88	1 90	1 95	2 04	2 05	1 90	2 00	2 00	1 90	1 90
1873-74	1 60	1 68	1 74	1 68	1 68	1 75	1 80	1 85	1 74	1 75	1 68	1 65	1 72
1874-75	1 45	1 38	1 30	1 25	1 20	1 25	1 25	1 20	1 22	1 35	1 48	1 50	1 32
1875-76	1 42	1 40	1 38	1 40	1 38	1 40	1 43	1 45	1 50	1 60	1 54	1 48	1 45
1876-77	1 30	1 15	1 15	1 30	1 30	1 42	1 55	1 55	1 55	2 10	2 00	1 85	1 52
1877-78	1 80	1 50	1 50	1 48	1 50	1 45	1 42	1 25	1 30	1 30	1 20	1 10	1 40
1878-79	1 06	1 00	95	95	1 00	1 05	1 00	1 00	1 07	1 12	1 10	1 12	1 04
1879-80	1 08	1 04	1 20	1 45	1 48	1 55	1 50	1 41	1 40	1 30	1 25	1 22	1 32
Average per month for 15 years	1 79	1 76	1 76	1 81	1 81	1 78	1 82	1 79	1 84	1 89	1 88	1 85	1 80

THE local crop reports attest this season, as in former years, the advantage of drilling wheat—in the quicker start, more vigorous growth, exemption from injuries by frost and flood, and an earlier harvest. Rarely is an exception noted to the economy and safety of drilling in preference to broadcasting, at least in the winter wheat region. The practice is not so common in the districts where spring wheat is grown.

Agricultural Books and Reports.

We have received from Prof. G. C. Caldwell, Director, the first annual Report of the Cornell University Experiment Station. It is a neatly printed pamphlet of 133 pages, most of which are filled with matter of great value to farming interests. Some 30 pages are occupied by Dr. James Law (than whom there is no better authority) with "Observations on the Lung Plague of Cattle." The Entomological and Horticultural Reports of Profs. Barnard and Lazenby, and the Field Experiments with Crops, by Prof. Roberts, are particularly interesting to the practical farmer.

The American Garden for July has made its appearance and fully justifies the good opinion we conceived of it when Messrs. Bliss & Sons issued the first number. The fact that Dr. Hexamer edits it is sufficient to bespeak for it the confidence of the gardening public. Published quarterly, at 34 Barclay Street, New York.

Plant on Fresh Ground.

A correspondent of the *New England Farmer*, contributes a bit of experience which it would be well to cut out, and paste in our hats for reference at next spring's planting:

While visiting Mr. Thompson, of Hopkinton, we were shown a line through the beet field on one side of which the plants stood thick and even, while on the other the beet plants were very scattering, while in between was another crop which had come up later. This difference was all caused by a delay in planting the latter portion after the ground was prepared. The planting was commenced on Saturday, and all the seed planted that day came up well, but the remainder put in Monday morning, after the soil had been exposed to twelve hours of scorching sunshine, which dried the surface down as low as the seeds were planted, came up very irregularly, the majority only appearing after a shower that came subsequently. The same effect must have been noticed in thousands of gardens where the seeds planted early, and at the time of preparation, came up well, but when those put in later, in hills or drills, previously prepared, have utterly failed.

The Science of Mulching.

Mr. W. W. Newman, in a paper recently read before the Onondaga Farmers' Club, grants that there is some foundation for the common belief that soil covered by boards, stones, or a mulch of any kind is mellowed and fertilized, even though nothing can be derived, except in the last case, from the covering material. The explanation of the effect produced he finds, first, in the fact that the ground is kept moist and porous, no hard crust being formed on the surface by the sun and beating rains; and, secondly that ants, worms and other smaller animals live and burrow and die under such covering, pulverizing the soil and fertilizing it with their excrements and their bodies. Mr. Newman supposes also that the difference in temperature caused by the mulch may have something to do with the enriching changes that go on beneath it, but for this supposition we find no foundation. Indeed, we may almost be satisfied with the first reason. Every arable soil contains an immense quantity of plant food that is not in fit condition for the use of vegetation, but must first suffer certain chemical changes by which it is converted from insoluble to soluble forms, or from compounds that are less acceptable to the plant. Such changes cannot go on at all in a very dry soil, and they will go on most rapidly in a *moist* rather than a *wet* soil.

One of the most important of these unavailable constituents of plant food is the nitrogen of vegetable and animal residues. By oxidation in a damp soil with free access of air through its porous surface, this nitrogen passes, to a greater or less extent, into the form of nitrates, specially valuable for plant food. It has been recently shown that this nitrification, as it is called, is brought about by the agency of minute living organisms, and that they work better in the dark than in the light; hence in a soil under a covering of any kind that excludes light and prevents evaporation, but does not exclude the air, the conditions are most favorable for this exceedingly important chemical change. Nitrates are easily leached out of a soil by percolating water; under a stone or board this leaching will not take place as readily as in an uncovered soil; therefore we are inclined to believe that a soil which has thus been protected during several weeks of warm weather will be found to be richer in nitrates than a soil close by it but unprotected, and that herein lies the chief reason of the enriching of the soil under such circumstances.

MR. WARNER says: "Nothing shows one who his friends are like prosperity and ripe fruit. I had a good friend in the country whom I almost never visited except in cherry-time. By your fruits you shall know them."

LOSE no time in searching for the apple-borer, a white grub that penetrates the trunk just about the surface of the soil; a sharp-pointed knife, aided by a stiff wire, will prove efficacious.

Attention to Fruit Trees.

From the Country Gentleman.

There are a few operations, small in themselves, which are often overlooked in summer, the neglect of which results in positive harm. Trees which were recently set out, and are making their first growth in the orchard this year, should have the soil kept clean and mellow about them for a few feet on each side. Their success and thrifty growth depend largely on this care. When the hot, dry days of mid-summer make their appearance, newly set cherry trees are greatly benefited, and often saved from destruction, by a copious mulching. Where grafts have been set on young or old trees, examine them and rub off all shoots springing up below the grafts.

The present is the best time to remove suckers from the trunks of orchard trees—not by cutting them away and leaving stumps which will send up new suckers, but by pulling them off with a brisk jerk downwards, setting the foot first on them if they are strong. If low down, remove the earth about the tree. A gouge and mallet may be needed for large suckers. By timely rubbing off young supernumerary shoots on young orchard trees, the tops may be brought into good shape without the necessity of heavy pruning in future. Register newly set trees in a book before the labels or names are lost.

Hints for Celery Growers.

P. T. Quinn in American Garden.

Market gardeners who grow celery for profit, and whose methods it is safe to follow, always raise this vegetable as a second crop. The ground is heavily manured in the spring with composted yard manure, and then planted with early cabbages, onions, or beets. These crops are harvested early in July, and the ground is then plowed immediately and made fine and mellow with a smoothing harrow. Then the celery is planted and kept scrupulously clean from grass and weeds, and under ordinary circumstances a full crop is obtained by the close of the season.

The old fashioned method of digging trenches to plant celery in, is numbered among things of the past. It is only put in practice now by some antiquated men who style themselves gardeners. The method is laborious, expensive and materially retards the growth of the plants.

Jumping at Conclusions.

From the Rural New Yorker.

How easy it is to arrive at wrong conclusions. There are two fields of corn near us, both upon sod. Upon one a tablespoonful of bone-phosphate was used in the hill. Upon the other, farm manure. The first is far ahead of the other, and the farmer concludes that the difference is owing to the superiority of the phosphate over the manure. In this season of drought we have had no rain to penetrate three inches below the surface. No doubt the farm manure, which remains in heated masses in the hills, has exerted an injurious effect upon the growing corn, while the tablespoonful of phosphate has exerted no effect of any kind. Had a tablespoonful of plaster or sand been placed in the hill, probably the effect would have been precisely the same. But the farmer has determined to use a tablespoonful of phosphate in the hill for his corn crop hereafter.

Preservation of Green Fodder.

From Report of Cornell University Experim't Station.

Having a large amount of refuse cabbage leaves, turnip tops, etc., when we harvested these crops last fall, we tried the experiment of manufacturing some "*ensilage*," adopting the process used in the manufacture of "sour hay." It consisted simply of closely packing this succulent refuse matter into a pit dug into the ground, and covering it with a layer of earth about two feet in thickness. This pit was opened last April, and the product was found to be in excellent condition, and was readily, even greedily, eaten by cattle. It had not molded in the least, but was changed into a dark brown product with a strong, sour odor. We were gratified by the success of the experiment for it showed that by this simple process we could save and turn to good account what would otherwise have been lost.

GEORGIA'S Commissioner of Agriculture, Mr. T. G. Henderson, of Atlanta, urges farmers to give more attention to the improvment of seeds, and mentions horticultural successes in this direction "little less than wonderful. Fifteen years ago, the earliest peach ripened about the 24th of June. Now a number of varieties ripen by the 24th of May. The tomato, formerly no larger than a plum, has been improved, until now single specimens often weigh more than a pound."

I KNOW of no plant that is able to compete with winter rye in growing fodder during the month of April and early part of May. I know of nothing in the months of May and June able to grow as much good fodder as grass land in good condition. For the months of July and August corn is our grand fodder producing plant. For September and October I know of nothing equal to barley.