

Educational Department. It is the intention to carry on this department during the coming winter, holding a rotation of the different subjects as Arithmetic, Grammar, History, Civil Geography, Simple Spelling, etc. Contributions, such as problems and their solutions, questions arising in daily life, and coming under the above branches of study, are earnestly solicited. Answers to questions in other studies will be cheerfully given by the special editor of the department whenever possible.

MUCK AS MANURE. Experiments Conducted in New Hampshire to Determine Its Value. Muck is on an average of about the same ratio of nitrogen as manure. This nitrogen was organized into plant life. Why is it not available and why have farmers made a failure of it? asks J. W. Sloan, Belknap county, N. H. In an communication to Country Gentleman. Twenty years ago he tried muck with favorable results and would have increased its use but for a call to agricultural college work. On return to his farm one of the first things done was to secure an analysis of the muck. This was followed by an exit drain for the water of the meadow. For the third season it has been used with satisfaction. The explanation of the failure of muck formed by this writer, and on which he is acting in its present use, is that its almost complete deficiency of minerals, especially potash, made its use necessarily a failure. In most soils nitrogen is less deficient than potash and phosphoric acid, while it is gathered by plants in part from natural sources, including rains. He says: "How short sighted in the old hands is the use of muck to add to the soil a material least required and expect it to succeed in the absence of the minerals! I use with it, in all cases except experimentally, potash and phosphoric acid. The time has not come to pronounce its use on my farm a proved success, yet in all cases it appears to be profitable applied." He adds: "In 1894 muck alone was used. Muck with potash and phosphoric acid was also used and a lot planted with chemicals alone. The muck was taken green from the meadow and showed better results where it was used than where it was not used. The ratio of yield was as follows: For the two minerals alone, 100; muck alone, 186; muck and minerals, 188. For the following year muck alone gave as 100 is to 103, where the three elements, nitrogen, potash and phosphoric acid, were used. Muck drawn from the meadow in a pile last of the winter and then placed at the bottom of potato drills doubled the crop by the scales. Last year a permanent set of experiments was laid out for the test of muck by the side of yard manure, chemicals, rotting plants and muck and minerals. Muck appears to have again given an increase of crop, while muck and the two minerals missing in it appear to be still better, for the third year, by the scales and rod, confirming the impression that muck is yet to be found of very great value to our agriculture, and that in the addition of the missing minerals is to be found the key to the successful application of its nitrogen contents. If I am correct, it will save millions to sections in command of it and yearly hundreds of dollars to the writer, who uses chemicals liberally. I am aware that all muck deposits are not alike and that some samples might be injurious in use in the raw state, yet the principle remains the same, the difference being merely in the detail of use in the way of correct acidity. A Wonderful Discovery. The last quarter of a century records many wonderful discoveries in medicine, but none that have accomplished more for humanity than that sterling old household remedy, Brown's Iron Bitters. It seems to contain the very elements of good health, and neither man, woman or child can take it without deriving the greatest benefit. Brown's Iron Bitters is sold by all dealers. How Volcanic Eruptions are Caused. The question as to whether the attraction of the moon has any influence upon the action of volcanoes is one upon which scientists differ. Bischoff's theory as to volcanic eruptions is the one generally accepted as correct—i. e., that the immediate cause of volcanic action is due to the fact that water percolates through fissures in the surface down to the hot regions beneath, where it is made steam at a high pressure and forces for itself a passage through the superincumbent crust, urging with it molten matter and the debris caused in the upheaval of the strata to produce a vent. If this theory be accepted, it would seem that the attraction of the moon has little or nothing to do with volcanic eruptions, unless it can be said that the moon, which causes high tides and therefore facilitates the admission of the waters of the ocean to the interior of the earth, has thereby caused the volcanic eruption. It appears from observations that earthquakes, which usually precede and indicate activity in volcanoes, more frequently happen at the time of full moon. But this of itself cannot be regarded as evolving a general law. Where She Couldn't Go. The spinster on the platform grew more vehement. She drank two glasses of water from the big white pitcher and pounded the table until the display of glass and crockery ware leaped again. "I thank heaven," she cried, "that I am free from all matrimonial chains! What use have I for a husband? I want neither a slave nor a tyrant. I am free—free as air. I can go and come as I please. No door is shut to me; no assembly bars me out. Is there a solitary gathering to which I may not have free and unrestricted access?" "Yes," cried a shrill voice in the rear of the hall. "And what is it?" sternly demanded the spinster. "The convention of mothers!" shrieked the voice. "Then the orator turned pale and went and sat down.—Washington Star.

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