

A NEW POISON FOR RATS AND MICE.—At the Zootechnical Institute, in connection with the Royal Agricultural Academy at Proskau, a series of experiments has been carried out upon the comparative activity or inactivity of the various poisons most commonly employed for the destruction of rats, mice, and other rodents. The result of these are now published by the director of the Institute, Dr. Crampe. Of all the materials experimented with, the most efficacious proved to be precipitated carbonate of baryta. This occurs as a heavy, fine, white powder, devoid of taste or smell, and can be purchased at any ordinary drug store. In the experiments of Proskau, a portion of it was mixed with four times its weight of sound barley meal, and made into a stiff paste with water, and small pellets of the soft cake introduced into the holes of rats, house mice and field mice. One great advantage of this preparation is that the smallest quantity of it proves fatal. Further, it appears to cause immediate and complete paralysis of the hind extremities, so that it may be assumed that mice eating of it in their holes will die within them, and so not prove destructive in their turn to domesticated animals that might otherwise devour the carcasses. It was found in practice that neither fowls nor pigeons would touch the paste, either in its soft state or when hardened by the sun, so that its employment is probably free from danger to the occupants of the poultry yard. Some rabbits on the other hand, that got access to the paste, ate heartily of it, and paid the penalty with their lives.

FARM LIFE.—It is a common complaint that the farm and farm life are not appreciated by our people. We long for the more elegant pursuits, or the ways and fashions of the town. But the farmer has the most sane and natural occupation, and ought to find life sweeter, if less highly seasoned, than any other. He alone, strictly speaking, has a home. How can a man take root and thrive without land? He writes his history upon his field. How many ties, how many resources he has; his friendship with his cattle, his team, his dog, his trees, the satisfaction of his growing crops, in his improved fields; his intimacy with nature, with bird and beast, and with the quickening elemental forces; his co-operations with the cloud, the sun, the seasons, heat, wind, rain, frost. Nothing will take the various social distempers which the city and artificial life breed out of a man like farming, like direct and loving contact with the soil. It draws out the poison. It humbles him, teaches him patience and reverence, and restores the proper tone to his system. Cling to the farm, make much of it, put yourself into it, bestow your heart and your brain upon it, so that it shall savor of you and radiate your virtue after your day's work is done!—*John Burroughs, in Scribner.*

DISCOURAGEMENTS.—In the battle of Lake Erie Commodore Perry stood upon the quarter-deck of the flag ship looking down upon the men who manned the great gun. A broadside from the enemy swept them away. The reserve corps seeing their companions mangled and dying, and thinking of homes and wives and children, turned pale and hesitated. Their beloved Commodore looked at them silently. Gazing into his face, without a word they stepped to their places and worked the gun. The ship sank. Out of one hundred souls on board only twenty escaped. Yet the battle was won. Satan means that discouragements should keep us from our work. The Lord means them to arouse all our love and trust and courage. Look at the discouragement and you will shrink, falter, fail. Fix your eyes steadfastly upon the Lord Jesus as he silently watches you, and you will go forward. Even should the ship sink, your ruin appear to be complete, yet the Lord's battle shall be won, and you shall be crowned. "In that glorious war, they conquer though they die."—*Rev. E. C. Ray.*

More than 8,000 160-acre farms were taken up this year along the Northern Pacific railway.

LIME-JUICE BISCUITS.—It is not very satisfactory to tell about a thing without giving directions for doing it, but this is all we can do with "lime-juice" biscuit. We give the following facts as vouched for by an English exchange, in case some of our skillful domestic chemists may find out for themselves the method of manufacture which is held a secret by the lime-juice biscuit makers in England. The value of lime juice as a medicinal agent and also as an article of daily diet being now so fully recognized, it becomes a matter of importance that it should be obtainable in a convenient form, agreeable to the taste, and also safe for transport. This object has been accomplished in a satisfactory manner by the production of lime-juice fruit biscuits, which are manufactured under a patented process recently discovered for the preservation of the juices of fruits in their fresh state; they contain the equivalent of 40% of fresh lime juice, condensed in volume, but unchanged in other respects as to its natural condition. The condensation of the juice is effected by the elimination of the greater part of its constitutional water, at a temperature of about 100° Fahr.; by means of scientific preparation the lime juice of the biscuit preserves its original anti-scurbutic efficiency in even concentrated degree. Moreover, its associate compounds co-operate in this protecting influence, at the same time that they give an alimentary character to the product. The lime-fruit juice biscuit, therefore, is not only a specific against scurvy and a purifier of the blood, but a highly nutritious food for general use as a part of the daily diet. For summer use they will be found very grateful either dry or dipped in water and then eaten, alleviating the thirst, while at the same time serving as an agreeable nourishment.

VENTILATION OF CUPBOARDS.—The ventilation of cupboards is one of those minor matters that are frequently overlooked in the erection of houses, while the want of a thorough draft is apt to make itself unpleasantly apparent to the smell. The remedy of the defect is however, very simple; if possible, have perforations made through the back wall of the closet, and a few in the door; when the wall of the closet cannot be perforated, bore holes freely on the top and bottom. To prevent dampness, with the accompanying unpleasantness and injurious effects of mildew in cupboards, a tray of quicklime should be kept, and changed from time to time as the lime becomes slacked. This remedy will also be found useful in safes or muniment rooms, the damp air of which is often destructive to valuable deeds and other contents.

A GIFT TO BOTANISTS.—The inheritor of the Villa Musset, near Cannes, has presented the building, together with the magnificent herbarium and library attached to it, and all the scientific instruments and appliances, to the French government, to be maintained as a place of study for botanists of all nations, free of cost. Persons desirous of studying there, whose applications are favorably entertained by the management, will be provided with free board and lodging in the institution for six weeks, and every opportunity afforded them to prosecute botanical research. In the case of applicants not provided with academical credentials, an introduction or letter of recommendation from some recognized *savant* will be required.

MR. LINCOLN'S HONESTY.—The following story is told to show the rigid honesty of President Lincoln in early life. When he was postmaster in a small Illinois village word came that the postoffice agent would be along in a day or two to collect the money due to the Government. It was about \$75, and one of Lincoln's friends, alarmed lest the young postmaster should be embarrassed by the sudden demand for so much money, offered to lend him the sum. Mr. Lincoln declined the proffered kindness, and, going to the upper shelf of a closet, brought down a bag containing the amount in the very coins which had come into his hands. He said he never allowed himself to use, even for a day, money which was in his possession belonging to other people.

THE METALLIC SLEEPER PROBLEM.—Many railroads, the Central Pacific among them, has tried experiments to test the efficacy of iron sleepers in the hope to cut off the expense of perishable timber. The same problem is being worked at in Europe. It is stated that M. de Soignie, a Belgian engineer, and formerly a forge master, has patented a system of rail and longitudinal sleeper in steel, rolled all in one piece, and that the John Cookerill Company are now rolling an experimental couple-of-thousand pieces, to be laid near Ghent, between Quatrecht and Melle. The compound rail and sleeper is 12 meters long by 300 millimeters broad, and weigh 51 kilograms the meter run. If adopted, the Belgian iron and steel trades would benefit to the extent of 102 kilometers of steel, and 15 kilometers of iron for every meter of way laid with the new combination, and this, of course, is reason enough why it should be warmly recommended to the attention of the Belgian Minister of Public Works. All the advantages of the Hill and De Serres and Battig sleeper, both of which are now being experimented with by the State, are combined and augmented in M. de Soignie's invention.

EFFECT OF CONSTANT VIBRATION UPON IRON.—Shafts of side-wheel steamers and propellers sometimes break suddenly, and it is supposed that the constant vibration of certain qualities of apparently sound iron causes a crystallization and loss of cohesion. Lately the steamer *City of Chester* was proceeding at an ordinary rate of speed in clear, calm weather, when, without a word of warning, two blades of her wheel dropped off simultaneously, crippling her at once. The manufacturers and builders believe that an examination of the remainder of the propeller will probably show again that the constant vibration had crystallized the metal, so that the wheel went to pieces all at once, like the deacon's "one-horse shay." The *Brooklyn Eagle* suggests that this gradual crystallization of iron is one of the dangers which threaten the elevated roads. How long the treaties work will retain its strength of fiber under the ceaseless vibration it is called upon to endure, it is a question which only costly experience will determine.

THE NEED OF CORRECT STATE SURVEYS.—We read that Prof. J. Peter Lesley, at present State Geologist of Pennsylvania, and for some years engaged in conducting the elaborate geological survey of that State, breaks out into loud lamentations over the utterly inadequate delineations of the topography of the State on which he has to fit his geological charts. "They neither fit on to each other nor correspond to any common standard map," he says. County lines, he says, are sometimes half a mile away from their true places. The joint commission of the States of New York and Pennsylvania to establish the line between those States, has found the old accepted line wrong at every point so far as it has surveyed. The Coast Survey is now authorized to extend its system of triangulation over any State which provides for a scientific survey, and there never was a time when it was easier to get large corps of expert surveyors.

ACCELERATION OF NERVOUS VELOCITY BY THE WILL.—A translation in the *Journal of the Franklin Institute* says that Chauveau has lately undertaken two distinct sets of experiments. In the first, he compared the velocity of transmission in the nerves of the laryngeal muscles (red involuntary muscles), and in those of the cervical position of the oesophagus (red involuntary muscles). In the second, the comparison was extended to the nerves of the terminal portion of the oesophagus (pale involuntary muscles). He finds that in the motor nerves of the red involuntary muscles, the velocity of transmission of centrifugal excitement is about eight times less than in the nerves of muscle which have an identical structure, but belong to the portion of the muscular that is controlled by the will.