

## THE NERVOUS SCHOOL CHILD

Needs Rich, Red Blood to Regain Health and Strength.

Many children start school in excellent health, but after a short time home work, examinations, hurried meals and crowded school rooms cause their blood to become weak and thin, their nerves over wrought and their color and spirits lost. It is a great mistake to let matters drift when boys and girls show symptoms of nervousness or weak blood. They are almost sure to fall victims of St. Vitus dance, or drift into debility that leads to other troubles. Regular meals, out-door exercise and plenty of sleep are necessary to combat the nervous wear of school life. But it is still more important that parents should pay strict attention to the school child's blood supply. Keep this rich and red by giving Dr. Williams' Pink Pills according to directions and the boy or girl will be sturdy and fit for school. The value of Dr. Williams' Pink Pills in cases of this kind is shown by the statement of Mrs. Pearl G. Harrington, Kingsville, Ont., who says: "I have often felt that I should write you and let you know that Dr. Williams' Pink Pills did for me. At the age of thirteen I was afflicted with St. Vitus dance. The trouble became so severe that I had to be taken from school. I was given medical treatment but it did not help me, in fact I was growing steadily worse. Then a friend advised my mother to give me Dr. Williams' Pink Pills, which she did, with the happiest results, as the pills completely cured me and I was again able to take up my studies and attend school. Again about three years ago I was attacked with nervous prostration and once more took Dr. Williams' Pink Pills, and after using five boxes was fully restored. I cannot praise these pills too highly as I believe they will cure any case of St. Vitus dance, or restore anyone who is weak, nervous or run down. You can safely give Dr. Williams' Pink Pills to the most delicate child, or take them yourself with equally good results when you need a blood tonic. These pills are sold by all dealers in medicine, or will be sent by mail, post paid, at 50 cents a box or six boxes for \$2.50 by the Dr. Williams' Medicine Co., Brockville, Ont.

## Apple Rots

It is estimated that in Ontario the average yearly loss from apple scab amounts to about 25 per cent. of the crop. No definite figures are available as to the losses due to the rot of apples in storage, but it is at least 10 per cent., and perhaps reaches 20 per cent. on the average. The losses from rot are of greater importance economically than those from scab, since they involve the loss of a considerable amount of direct human labor—that is, the apple is lost after it has been picked, handled several times, and stored away.

Apple rots are, of course, due to the attacks of certain fungi, of which two are most common in Ontario, namely the black rot fungus and blue mould fungus. Of these the last is the cause of the greater part of the rot in storage. These fungi are living plants which grow in the tissue of the apple and destroy it, after which they produce immense numbers of very minute dust-like "spores," which we call spores. These spores will grow just like seeds, and as they are so small, they are readily blown about by the lightest air currents, and thus the fungus is spread from one apple to another. The following hints will be of use in helping to keep down the amount of rot in stored apples.

In the first place the storage room should be clean. The blue mould fungus will grow on various kinds of litter and produce its spores very plentifully on rotten fruit. If the cellar is kept free from dirt and refuse, and no rotten fruits are allowed to remain there, the chances for rot infection are greatly lessened.

The cellar should also be kept reasonably dry. The spores of these rot fungi, like seeds, will not start to grow unless they have sufficient water. A reasonably dry cellar will therefore keep the spores from germinating, even if there are some of them present.

The temperature of the cellar should be kept as low as possible. The rot fungi, like other plants, grow best in warm conditions, and will be able to make very little progress if the temperature is kept within a few degrees of freezing.

Rot fungi got into the apple usually at some wound or bruise. The less injury that apples receive in handling the less rot that will develop afterwards.

When the storage cellar is emptied in spring, it should be thoroughly cleaned, and, if possible, whitewashed or treated with disinfectant to destroy all spores of the rot fungi. The musty smell which is present in many

cellars is produced by the blue mould fungus, consequently if the characteristic mouldy odor remains in the cellar this fungus is certainly somewhere about, and every effort should be made to get rid of it before the next season's crop is stored there.

In addition to the above notes on fungus rots attention should also be called to the spotting and scalding of apples in storage, which is not due to fungi, but which is the direct result of improper storage conditions. Spotting and scalding of apples is very frequent towards spring. The spots on the skin are sunken and brown and greatly disfigure the fruit for sale, while scalding is even more damaging to the appearance. In this latter trouble the flesh just under the skin turns brown in irregular areas. While, as noted, these troubles are not directly due to rot fungi, they are likely to give easy entrance to rot producing fungi afterwards.

Both spot and scald arise from improper storage conditions, and will likely be worse on fruit that has not matured properly before being picked. The three storage conditions that favor or spot and scald development are (1), high temperature; (2), humidity, and (3), stagnant air. It should be understood that the fruit is not completely dormant during the storage period, but that there is a constant, if small, continuation of growth processes throughout the whole period. These processes result in maturing or mellowing the apple, and the chemical processes which occur during them involve the absorption of oxygen from the air and the giving out of carbon dioxide. It is, in fact, a slow breathing process. When apples are stored in a place where they have no free access to the air, they are "smothered," and the scald which develops on them is due to abnormal chemical changes brought about because of inadequate air supply. If the room is too warm the growth processes are quickened and scald or spotting is increased. Very moist or humid air also aggravates these troubles.

It is obvious that in an ordinary cellar spotting and scalding can be largely avoided by a little attention to the needs of the fruit for cool, dry conditions, and a continuous supply of fresh air during the storage period.

It is recommended (1) that apples should be stored in small lots rather than in large, close piles or bins. They should preferably be kept in open, slatted boxes, or other similar containers, which will allow all the fruit to have free access to air. (2) That the temperature be kept as low as is consistent with protection from frost, and (3) that plenty of ventilation be provided. If the air is changed frequently in the cellar the incoming supply will not only renew the oxygen, but will drive out the old, stagnant air, which is laden with moisture and over-charged with carbon dioxide. The method of ventilation can best be determined by conditions; in some instances air shafts can be used, while in others the opening of doors and windows on mild days will be desirable. In almost all cases some simple means of securing frequent changes of air can be readily adopted and the fruit thus kept free from scald and spot troubles. W. A. McCubbin, Field Laboratory of Plant Pathology, St. Catharines, Ontario.

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## COLORS' EFFECTS

On Persons When Used in a Room.

Have you gone into a small room in an apartment and wondered why it appeared so small and stuffy when its twin across the hall seemed so much larger and more cheerful? And have you closely observed the decorations of the two rooms and hit upon the right solution—the difference in the colors used on walls, curtains and furniture?

A writer in Price's Carpet and Rug News brings to light some interesting facts about colors:

Blue is a contrasting color, reflecting less light than it gives and has a tendency to make the room in which it is used as a dominating scheme seem much smaller than it really is.

Yellow is the antithesis of blue, for it expands, reflecting more light than any other shade and gives both length and breadth to a room. It is especially good for use in a room with northern exposure because of its light reflecting quality.

Red is one of the warmest colors and should be used only in small bits for contrast. It should be used most sparingly if a restful effect is desired.

Maues, grays and violets are cold colors and should be used as background for colors of more warmth. All combined colors, such as green, purple and brown, will follow the dominant primary color of their mixture. A sunny room can stand the cold colors, while a north room must have warm, rich shades. Strong contrasts produce excitement.

London, Oct. 24.—General Armando Diaz, the Italian chief of staff, was given the freedom of the city of London, and presented with a sword-of-honor to-day in recognition of his services in the war.



## The Kiddies Enjoy Cuticura Soap

This pure, fragrant emollient is just suited to the tender skins of infants and children. Millions have known no other since birth. The daily use of it, with touches of Ointment now and then to little skin and scalp troubles, tends to insure a healthy skin, a clean scalp and good hair through life. Soap, Ointment and Talcum sold everywhere.

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## WHAT FERTILIZER FOR WHEAT?

(E. G. McCloskey in Philadelphia Record.)

This question is as old as the use of fertilizer itself. It is asked whenever farmers get together to talk at home, at club and at institute. It always brings as many different answers as there are stars on a clear night. The asker and the obtainer of the information each goes out and buys what he thinks he can afford—and his standard of economy is usually measured by the price per ton which he is asked to pay. If the purchaser's bank balance is reasonably big, he buys one buys another, and that is about all there is to it.

Now to come back to the question, "What fertilizer shall I use?" In a few words the answer is—the one which returns the biggest acre profit. To return this biggest profit the fertilizer must be economical and it must be adapted to conditions as they exist on the farm in question.

One might suppose this would mean a great variety of fertilizers—a veritable mob of them. Not necessarily so. When we boil down the facts a surprisingly small number of different fertilizers will fill the bill all over the wheat-growing territory. Following the wheat-growing are the recommendations in tabular form of the Soil Improvement Commission, seven different analyses in all. And with the table is a brief resume of where each analysis fits in. Each of these analyses is high—has a minimum of 14 per cent. total plantfood, which is the standard above which all fertilizer ought to grade in point of economy:

## THE FERTILIZER FOR WINTER WHEAT.

How to make selection from the several grades recommended by the Soil Improvement Committee:

	I.	II.
	With Ammonia.	Without Ammonia.
A. High potash ..	2-10-6	0-12-4
	2-10-4	
B. Low potash ..	2-12-2	6-12-3
	2-12-0	0-16-0

Where no manure is used on wheat land.

Where wheat is planted late, or where land is not plowed for wheat.

Select from Group I.

When plenty of manure is used, and where clover does well and is grown regularly and at short intervals in the rotation.

Select from Group II.

On muck and peat soils, or on sandy soils.

Where manure is used but lightly, or where clover fails.

Select from Group A.

On clay and clay loam soils, or on soils which do not respond to potash, or

Where manure is heavily used.

Select from Group B.

Seven different analyses for all conditions under which wheat is grown? Is it possible? Does it seem reasonable?

Not only is it both possible and reasonable, but the system is of immense value to the fertilizer consumers the country over by simplifying their fertility practice. Let us illustrate just how the system works.

What needs ammonia (that is nitrogen) and lots of it. Ammonia gives the

young plant a quick start. It helps produce stem and leaf growth and aids the plant in "filling out," and stooling. By giving the soil a good leaf growth ammonia in wheat fertilizer helps prevent winter-killing.

It will never do, however, to give the crop all the nitrogen it needs in the one fertilizer application made at seeding time. In the fall we need enough ammonia to "start" the crop. What more is needed must be applied in the spring by a top-dressing fertilizer.

The two per cent. of ammonia in four of the seven wheat fertilizers is included as a so-called "starter" to furnish available nitrogen under conditions when the soil cannot be relied upon to furnish it in sufficient quantity. Let us see what these conditions are:

1. When clover or other legumes are not grown in rotation.
2. When but little manure is used on the farm—and this applied to crops other than wheat.
3. When wheat follows corn, oats or wheat.

The first two conditions are self-explanatory. As far as the third condition is concerned, we need simply remind our readers that these crops drain the soils of its available nitrogen and after growing these crops the soil is for a time inactive and lifeless—for those processes which make nitrogen available are slowed down. Under these conditions available nitrogen is needed to start the crop. Thus we say select from Group I—either A or B.

There are other conditions under which the use of the ammonia starter in the fertilizer is unnecessary. When manure is applied to wheat, when clover is plowed down a short time before wheat seeding, when manure is applied heavily to the preceding crops—these conditions indicate a sufficiency of available ammonia and selection may be from Group II—either A or B.

The necessity of studying farm practice so as to see whether or not the wheat crop will suffer from lack of available nitrogen should be emphasized over and over. On some farms, however, the potash proportion is very nearly as important as the nitrogen question.

Especially this year does the latter statement seem true. Up and down the disappointment. Much of the loss is due to "scab" and much to "rust" and some perhaps to the beating rain, which is said to have made pollination difficult. Way in the background there is a suspicion that four years of potashless fertilizer is beginning to tell, just as it has already told with potatoes and tobacco. Rust and scab are diseases



without question, but no one can disprove that their virulence is much increased when malnutrition is on hand as a ready aid.

In this matter of high analysis fertilizer the writer is inclined to be a trifle crabbed. Only recently a very good friend asked—what do you think of a 1-8-1 for my wheat this fall? Perhaps by this time the reply is forgiven, though it is doubtful.

No wa 1-8-1 fertilizer will help to grow more wheat. There is not a shadow of doubt about that. It also will return a profit in any case where it has a fair show. There is not a doubt about that either. But neither is an argument for its use unless a higher grade fertilizer cannot be obtained.

What do we buy fertilizer for, anyhow, if it isn't for the plant-food it contains? Let to the average man the analysis on the sack might as well be printed in Greek, for all the use he makes of it. A 1-8-1 is cheaper than a 2-12-2 beyond a shadow of doubt, but how much cheaper is the 200 pounds of plant-food when compared with the 220 pounds of the higher analysis. That may be another story.

Just for illustration, suppose we assume a 1-6-1 fertilizer and a 2-12-2. The 1-6-1 is seldom ever offered for sale, but it will serve the purpose of illustration, and besides, it is not far different than 1-8-1. A ton of 2-12-2 has exactly double the plant-food of a ton of 1-6-1 and in the same proportion. Which shall we buy, half a ton of 2-12-2 or 2 tons of 1-6-1? In the first place 2 tons of 1-6-1 will cost more than 1 ton of 2-12-2. It is bound to, and always will as long as men demand wages and railroad charge for freight. That is loss number one.

Then after we have it, what advantage is there to the two tons that the one ton does not possess? Certainly, not more plant-food. A few more sacks? Yes, and the consumer has paid for them. Count up the list of crossways and endways, and the only gain for the low analysis is a few more backaches and a few more pounds of sweat—something most of us could spare without ill-feeling. Item of loss number two.

Fertilizer is just like any other marketable commodity, when you insist on something cheap you get something cheap. The low-priced goods are all right in their way. They will usually return a good profit. There is that to be said for them. But between a good profit and a better profit there is a wide gulf of difference, and that is the difference between the low analysis and the high analysis fertilizers.

The man who cannot forgive any mortal thing is a green hand in life.—Robert Louis Stevenson.

## PIMPLES THAT DISFIGURE

many a girl's complexion will be found to disappear if Zam-Buk is applied with regularity.

Miss Mary Kraft, of Gilbert Plains, Man., writes: "After having had disfiguring pimples on my face for two years, and having tried all kinds of treatment in vain, I had about given up hope of ever getting rid of them, when I saw an advertisement recommending Zam-Buk for this trouble. I sent for a sample box, and even this small quantity brought a little improvement. Now, after persevering for some months with Zam-Buk, my face is entirely rid of the eruption." 50c. box, all dealers.



## SCIENCE NOTES

Of the undeveloped water power of the United States about three-fourths is found in 13 Western States, leaving one-quarter of the total, or some 13,000,000 horse-power, for the East.

In the Alps, the mosquito Anopheles, which causes malaria, is found plentifully up to heights of 5,600 feet, but malaria is never met with above 2,600 feet.

The lumber production in 1918, according to tables recently published by the U. S. Forest Service, show a total of 32,760,000,000 feet. The production for 1917 was 36,000,000,000 feet, so that the past year shows a considerable decrease in lumber production; this was most marked in the Southern and Eastern States.

Sound horses are never known to make a mistake in their diet when grazing. Like all other horses, they are guided by the nostrils in the selection of proper food.

Silicon possesses the highest known thermo-electric power. But it can be made either electro-positive or electro-negative. If it be crystallized in silver or tin it is negative.

Trees are being systematically planted along the great wall of China.

A combination bridge and market place have been constructed by the city of Monterey, Mexico, and this bridge which serves a double purpose is one of the sights of that part of Mexico.

With the exception of one or two of the Balkan States, Russia is the most illiterate country in Europe, over 60 per cent. of the inhabitants being unable to read or write, and yet it has one of the largest universities in the world.

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