

EFFICIENT FARMING

Put an Overcoat on Your Crops.

Your crops out in the field will shiver, freeze and possibly die of the "flu" unless you give them an overcoat. When the ground is frozen, the whistling wind is flying, and the wheat, rye and other crops will prize a warm overcoat under which to pass the cold weather. And they will give you a better yield in return for this thoughtful care.

By using the mechanical straw spreader, it is possible easily to convert the waste straw stack into an overcoat for the winter crops. Straw is very valuable in holding snow on the ground during the winter months. A bare surface is an invitation for the winds to blow the snow away, and wheat is very apt to winter-kill as a result.

When even a thin coating of straw is evenly distributed over the field before winter really sets in, it will catch the snow so that it melts evenly, not only providing an overcoat to the tender shoots but saving the moisture for a time when it will be most needed. Thus the wheat will get a better start in the spring when the moisture is needed to secure an even growth over the entire field. And this early start will later play a most important part in the production, as shown by experience.

Evenly spread straw is especially valuable for alfalfa. The straw protects the tender plants from the scorching heat of the sun and acts as an insurance against baking ground, the spring. Many farmers have experienced considerable loss from the wind whipping off the young plants, and spread straw serves to protect them against this. When a warm spell comes on in winter and melts snow in spots on the field, then turns severely cold before snowing again, the straw coat will help the alfalfa from freezing out.

It has been found that one ton of spread straw will absorb two tons of moisture and deliver it to the growing plants when most needed. It also adds humus to the land in the same process as a lamp wick delivers oil to the flame. It keeps the moisture at the working point.

Potash is mighty expensive stuff to buy, and millions of tons of this essential plant food may be supplied by straw that is permitted to go to waste. One farmer was able to increase his wheat yield by ten bushels per acre by merely spreading a thin coat of straw over the seeded crop. The same holds true, in proportion, with rye crops, which have been increased from eight to ten bushels per acre. Straw is money, and no farmer can afford to let it waste.

The three important elements, nitrogen, phosphorus and potassium, contained in a ton of straw of the various kinds, at present commercial fertilizer prices, are about as follows:

Straw	Nitro.	Phos.	Pot.	Value
Oats	12.4	1.6	20.8	\$ 9.62
Wheat	10.0	1.6	18.0	8.12
Rye	10.0	2.6	14.0	7.96
Barley	12.0	1.8	18.2	8.91
Buckwheat	25.0	1.4	19.0	12.15

Consider the above, and then see how many piles of buckwheat straw are permitted to rot on the ground on Ontario farms each fall.

According to recent calculations, straw is worth from \$2.50 to \$6 per ton as fertilizer. Many farmers are of the opinion that straw is low in plant food value, and not worth putting on their land. Actual tests demonstrate that the crop yield will be increased by its use, since it puts necessary humus into the soil, and adds other important elements required to produce crops, all of which cost money.

Your wheat crop removes a large percentage of potassium from the soil. Wheat straw will replace three-fourths of this annually, which shows that its use will reduce further the amount of commercial fertilizer needed, where it is used. By returning proper amounts of straw on grain land, not only is the fertility maintained, but the producing power assured.

Straw should be spread year after year, since it must be in a decomposed state before it becomes readily available as a plant food. In one experiment no increase was noted in a ten-year test until the tenth year, when a sufficient decomposition had taken place to reveal results. But in the meantime the spread straw had maintained the fertility and had acted as an overcoat each winter for fall-seeded crops.

If you have a light soil which is deficient in organic matter, there is nothing better or cheaper you can put on the land than straw. It will serve to keep the soil from blowing, the addition of humus stops the blowing and often means the saving of a good crop in the spring when the winds often play havoc. Thus, spread straw on this kind of land means the difference between partial loss and full crops.

If you farm heavy bottom land, spread straw is valuable also. In fact, experiments over a period of several years in various parts of the country, prove that there is no particular land that shows best results from spread straw, since it seems to have a special service to render each.

Mechanical straw spreaders have a capacity to cover twenty acres of land a day with a thin, medium or heavy coat of straw, according to the supply and need of the land.

Reduces Value of Horse Manure.

Surprising results have been obtained by soil and crop experts in a series of tests recently completed, from the use of wheat straw with horse manure. When fresh straw was added to manure and applied to growing crops, a pronounced detrimental effect was noted as compared with crops where fresh manure was used alone. It was further observed that when straw was added to the manure, together with some preservative, a marked loss of the organic matter of the manure resulted. The loss of organic matter amounted to fifty-three per cent. during an interval of four months where peat was added to manure-straw mixture and only thirty-two per cent. where the peat was added to manure alone.

The best results appear to follow the use of acid phosphate with manure in the stables. A couple of handfuls of the acid phosphate is scattered in each stall each day and the animals are allowed to trample it into the manure. The manure can then be stored in a covered shed, or pit, until it can be spread in the field.

Red Mites a Serious Enemy.

The red mites suck the blood from the skin at night, when the birds naturally look for rest and peace. When the fowls are moved to a new house the mites quickly assume their normal grey color; blood makes them red.

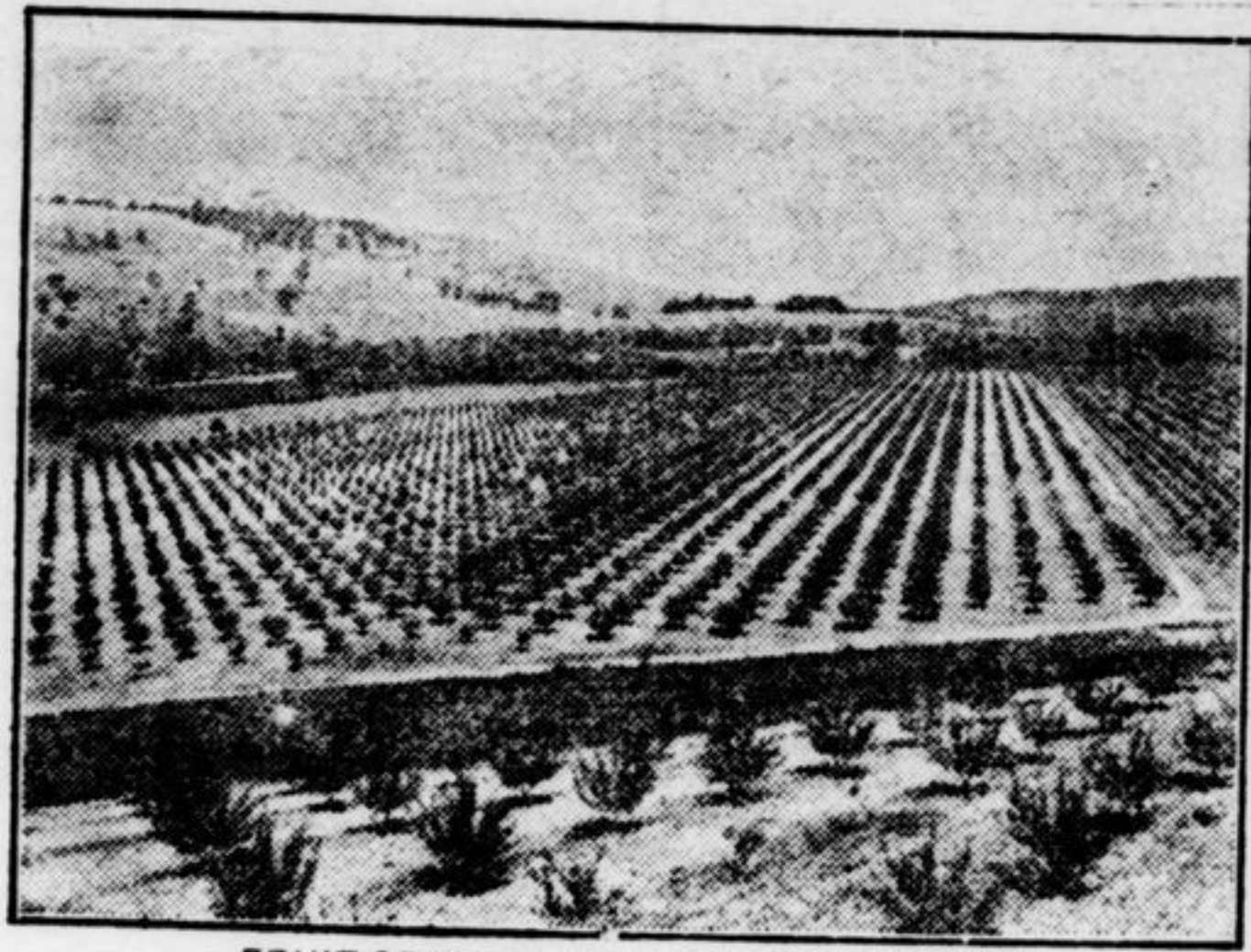
There is nothing, save lack of fresh water, so harmful to the full egg-basket as an excess of red mites. It only takes a week for their eggs to hatch, mature and lay more eggs. If left unmolested, one pair will lay thousands of eggs in the summer months. The heat from droppings on the roosts or boards helps in hatching their eggs. Burn up all infested roosts, and replace them with roosts of new, planed, clear lumber. Fill up all cracks in the wood with melted tallow or diluted waste auto transmission grease, and thus rob the mites of a future home. Carbolineum or Zenoleum makes a superior roost paint, as it saturates the entire roost and lasts a long time. Roosts made of rough, unpainted, pieced, knotty lumber are not fit to use.

The German Beet Industry is Crippled.

Students of conditions in Germany declare that it will at least require ten years for the German sugar industry to get back to its pre-war condition. Even should it recover this position, the export capacity of the country will probably be cut in two through the loss of a large acreage of important beet lands to Poland.

Further handicaps are being experienced by the German farmers. Their soil has greatly deteriorated since the beginning of the war. Imports of oil seeds and phosphate fertilizers have been so small during the past seven years that farmers have been unable to maintain former high producing conditions.

"My boy," said a father to his son, "treat everybody with politeness, even those who are rude to you; for remember that you show courtesy to others, not because they are gentlemen, but because you are one."



FRUIT-GROWING IN A SISTER DOMINION. A young orchard in Australia which indicates the scientific methods applied to fruit-raising under the Southern Cross.

The Sunday School Lesson

NOVEMBER 26

Jesus the Great Missionary, Luke 8: 1-3, 26-33, 38, 39. Golden Text—The Son of man came to seek and to save that which was lost, Luke 19: 10 (Rev. Ver.).

Lesson Setting—Following on the story of last lesson we find Jesus with his disciples on a second preaching tour in Galilee. He went preaching and bringing the good news of the kingdom of God. We find that Jesus' ministry of mercy to the woman in the house of Simon was but part of a wider ministry of mercy to woman-kind under the burden of sin, sorrow and infirmity. We also find that the ministry of the woman was but part of a wider ministry of woman-kind to Jesus. The wealth of substance and heart was at his disposal. This is but another phase of the world-wide scope of Jesus. It was in this tour that Jesus speaks of the desperte condition of the man and the complete deliverance that came to him through Jesus.

I. Grateful Women, 1-3. V. 1. He went throughout every city and village. In this tour Christ covers the district in thorough fashion, rather than choosing strategic centres, and we learn that the multitudes were drawn to him. Preaching and showing the glad tidings. This explains the gathering of the multitudes. It is a new word and a glad word that Jesus speaks. He has something to bring to the burdened people. The twelve were with him; as helpers and learners.

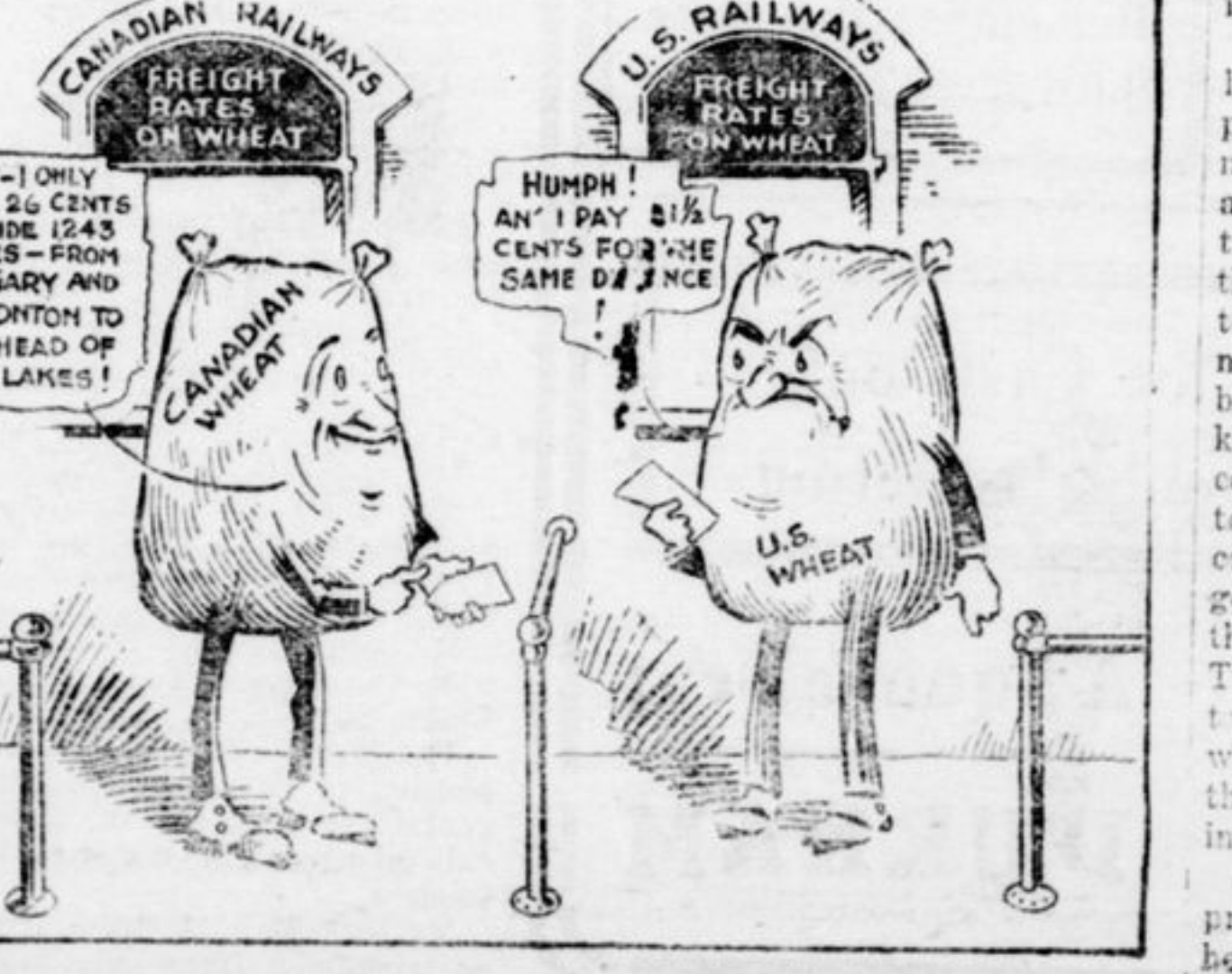
V. 2. And certain women, which had been healed, Jewish religion had nothing but contempt for women. "No woman was allowed to come closer to a rabbi than four cubits distance." Jesus has a place for them in his mercy and his work. Mary called Magdalene; from the town of Magdala, not the nameless woman of last lesson. Out of whom went seven devils; an extreme case of demoniacal possession, but not the same as demoniacal possession whatever it was. Jesus was never confounded with wickedness. Joanna the wife of Chuzai; who was with Mary Magdalene at the sepulchre. Susanna. We know nothing of her. Ministered unto him of their substance. The women were women of means and gladly helped Jesus.

II. A Raging Demoniac, 26-33. V. 26. They arrived at the country of the Gadarenes. In v. 22 Jesus says, "Let us go over unto the other side of the lake." The pressure of the work was telling on Jesus. He was feeling the need of rest and unbroken communion, and seeks to get away from the multitude with its ceaseless distractions.

V. 27. There met him a certain man. The picture of the man is a vivid one. He was possessed of a devil. He was a terror to the neighborhood. He had defied all efforts to bind him with chains. He wore no clothes, but lived in the caves used for tombs. In his frenzy he would cut himself with stones. Whatever demoniacal possession was, there is no doubt of its effects. It alienated a man from God, his fellows and himself.

V. 28. He cried out. It was a cry of fear and answer to Jesus' word of authority, the motive of which the man did not yet understand. "Tormat me not. This man, at war with society and everything else, cannot think of power used for any loving purpose. Thou son of God. In the intervals between attacks the man may have heard of Jesus and his wonderful works and divined that this was he.

V. 30. What is thy name. Jesus seeks to establish a point of connection with him. Legion; said to terrify Jesus. The Roman legion was asso-



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Road Signs That Sell Produce

With the good roads program becoming almost universal, many farmers are finding that a sign properly made and placed on the road in front of their homes will help them to sell the surplus of their gardens, much of which is otherwise wasted because the owners cannot take time off to go to town with little dabs of beans, onions or cabbage. Moreover, the road sign makes it possible to sell a little stuff each day, thereby avoiding a big rush on the part of the producer and the materials can be turned over to the consumer when they are just right, rather than some being over-ripe while other units are yet green.

In making one of these road signs, by all means place them perpendicular to the road rather than parallel to it. Advertising men claim that the perpendicular sign is five times more "pulling" than the parallel one. A fence post four feet apart in concrete and when the cement is to be put in, be sure the corresponding crimps are level. The crimps or pieces of steel that have been cut out and bent up to fasten the wire on the road a very attractive investment.

Windbreaks for the Apiary.

A good windbreak is of as much importance in the protection of bees during the winter as packing. Bees in single walled hives well protected from wind will stand a better chance of living through the winter than those in packed hives exposed to cold, penetrating winds. A windbreak is also advisable during the summer, especially where the apiary is situated on a hill or in any exposed locality.

The most perfect windbreak is an enclosure of woods, as a natural windbreak is usually more extensive than one built for that purpose. An evergreen hedge seven or eight feet high and when an apiary is permanently located this should be planted. A board fence of the same height is also satisfactory but the boards should be left about one inch apart to allow the wind to filter through. A solid fence is not so effective as one that is partly open, as it causes whirly which may strike some of the colonies and destroy them. Quick growing shrubbery or vines are also suitable but if used they should be of such a nature that the branches are thick enough to make a good screen even when the leaves are off. Buildings alone cannot be relied upon for protection, as they often divert the wind and make conditions worse, beside giving too much shade.

The apiary should be protected at least on the sides from which the prevailing winds come, usually the north and west. Sometimes, however, a sudden cold wind may come from the east or south, especially during the spring after the bees have begun to fly and brood rearing has commenced. The bees are attracted out by the bright sun and many will be killed by the wind. At this time the colonies are weak and cannot afford to lose any of their working force, so need all the protection they can get; therefore, it is advisable to have the apiary enclosed on all four sides. The fence should not be high enough to shade the bees until noon or they will not build up as quickly as those that get the morning sun, especially in the spring.

An apiary situated so that it is protected on one or two sides by a hedge and buildings on the others is

Keep An Eye on Your Root Pits.

It is seldom indeed that the contents of a root pit survive the fall and winter storage conditions without being affected by rot or being partially frozen. This, of course, means considerable loss in the quality and quantity of the roots stored. Our experiments with root pits at the Central Experimental Farm at Ottawa have given us a few ideas on rot and frost prevention that we gladly pass on to whoever may care to make use of them.

We use a simple type of pit consisting of a trench about 8 to 10 inches deep and usually about 4 1/2 feet wide, dug on a dry, well drained site. We use a straight, offset intake ventilator with an opening about four inches square—these are set at approximately five foot intervals in the root pit. After filling the pit we cover it up with four to six inches of straw and then put on about four or five inches of earth. This layer of earth we allow to freeze quite solid before applying the second layer of straw and earth. By allowing this first layer to freeze quite solid, not only is better insulation secured, but a supporting arch is formed which helps to take the weight of the succeeding layer of earth off the pitted roots, thus ensuring better storage conditions. The soil quite solid by the time the second covering is applied. To avoid this difficulty we put a few loads of manure around the pits to prevent the soil from freezing so that when we come to put the second covering on the pits we only have to shovel loose earth.

To prevent the spread of rot in our pits we make use of a few thermometers suspended fairly well to the bottom of the ventilators. An even, fairly low temperature in all the ventilators indicates everything in good shape. A rise in temperature in a ventilator means the beginning of rot in that vicinity and this condition should be looked after immediately. The rotting of a single root is enough to raise the temperature three or four degrees in the ventilator near which it is situated. To locate the spot where the rotting roots are to be found, we check up the temperature in the ventilators on either side of the one where the highest rise in temperature occurred. If the temperature in both of these is about the same it is safe to conclude that the rot is to be found close to the centre ventilator. An unequal temperature in the two adjacent ventilators means that the rot will be found between the centre ventilator and the one on the side where the highest temperature is found. A small rise in temperature means that the rot is nearer the centre ventilator; whereas an increase in temperature almost equal to the centre one indicates that the rot is likely located almost half way between the two ventilators in question. By checking the temperatures in the different ventilators in this way it is possible to locate a rot spot very closely. The pit can be opened at this spot and the rotting roots removed without the necessity of going over all the pits, as is the procedure where the exact location of rotting roots cannot be determined.

In any case it pays to keep track of the condition of the interior of the root pit by means of a good thermometer.—G. P. McRostie, Dominion Agrostologist.

To Sharpen a Plow.

Do you want to sharpen your plow lay? If so, heat it and start with the point. First lay the lander side down on the anvil, drive the point over to land-side at an angle and then draw out, still keeping the lander side straight and point at angle. Put the lay on the anvil with lander next to side till you get back about two or more inches on lay, then turn and draw from bottom side so as to leave top side smooth. After you have drawn the edge, turn back and shape edge from top, so that when the lay is finished the edge will set level on a board. Then your plow will run and wear level.

November Waits. If any month is better than another for walking it should be November. It is both the privilege and the need in walking to get off the beaten path, to cross fields, to explore a wooded slope, to follow the meanderings of a companionable brook. Now that the crops have been gathered and farmers are no longer jealous of their rights against trespass, it is permissible to make a walk what it should be: an excursion in freedom, a joy-bringing uplift of spirit that comes only with the touch of the feet on the earth.

If we are going to do justice we must get rid of the antiquated notion of a "great gulf" fixed between animals and mankind, and must recognize the common bond of humanity that unites all living beings in one universal brotherhood.—John Launce.

Further evidence of the high regard in which Canadian purebred stock is held all over the world was recorded when E. Frisell, of New South Wales, Australia, bought five animals at the Helsen-Fresian sale held at Brockville, Ont., for shipment to that country. Other purchasers of stock at the sale were from New York, Pennsylvania, and Michigan.

Make 'em Lay!

Your hens and pullets should be laying heavily now. If not, you can start them, and keep them at it, with **Pratts Poultry Regulator**—the natural tonic that supplies to cooped-up birds those health elements which Nature provides them in summer. "PRATTS" rouses appetite, aids digestion, stirs up the sluggish egg-organs, preserves health and vigor. That means MORE EGGS.

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