

# TREATMENT OF CATTLE WITH GRUBS UNDER THE SKIN

From January to June most cattle, especially those which are kept largely on the open range, suffer from grubs under the skin. These grubs are the large maggots of the ox bot fly, which is a common pest in Europe and America. In beef animals the hides which bear holes made by the grubs are discounted at the tanneries at about \$1 each. The places where the grubs are lodged between the hide and the meat are shot with blood and pus an almost trimmed away. In dairy cattle the annoyance and pain caused by the grubs and flies entails a loss of ten to twenty per cent. in the productivity of the animals.

The life history of the insect must be understood in order to treat the trouble intelligently. In the spring and early summer the flies appear. These are about one-half inch long, and appear somewhat like a honey bee. The body is black and covered with yellowish-white hairs on the fore part and reddish-brown on the hind part. The flies lay their eggs on the heels, legs and flanks of the cattle. The cattle are terrified by the presence of the flies and are frequently stampeded by them. It is a curious fact that the flies will not go over water to reach the cattle. After the latter spend a large part of the warm hours of the day standing in water or on small islands or rocks, in running streams, to avoid the flies.

After the eggs are laid they find their way into the mouths of the cattle, when these lick the hairs to which the eggs are attached. The saliva of the cattle appears to release the little grubs, which attach themselves to the walls of the throat. Here they bore through the walls and slowly make their way through the flesh of the animal, until in about six months or more they find themselves under the hide. They then make a small hole through the hide through which they are able to breathe more freely, and, consequently, their growth from this time forward is much more rapid.

When the grub has reached its full size it makes its way out through the opening, drops to the ground, and goes through the resting stage before it appears as the adult fly.

Bearing these facts in mind we can readily see that the pest may be attacked at two places in its life history. If we can prevent the laying of eggs or kill the grubs, we can reduce the injuries.

The grubs under the skin may be killed in several ways. One common method is to rub down the lumps on the hide with a round stick, such as a broom handle, thus killing the grubs where they lay. Oil or lard may be applied to the holes in the hide, which will stop the breathing pores of the grub and kill it. If a little carbolic acid is put in the lard it will help the wound to heal more quickly. By pinching on either side of the lumps, the grubs will often be forced out. They should be killed by the foot if they drop to the ground. The holes may then be treated with carbolyzed lard. This method is to be preferred, for it does not leave the grub under the hide to fester.

Dairy cattle, and those kept in close range may be largely protected from the egg laying by spraying or smearing with smelling oil or grease on their legs and flanks. Train oil and fish oil are often used for this purpose. Any vile smelling stuff will answer, for the benefit lies in keeping the flies away from the animals. The applications should be kept up during the spring and early summer.

The beneficial influence which the keeping of live stock exerts on rotation is far-reaching, far more so than is generally supposed. Many persons cherish the view that simply to vary the cereal crops is to rotate them. In a sense it is, but such rotation is scarcely worthy of the name. The true rotation of crops means varying them to such an extent that the producing power of the land will not be reduced. This idea of rotation implies that in addition to cereals, some cleaning crops shall be grown and also pasture and hay crops. The first class of crops furnish food for man and beast; the second in addition makes it possible to wage successful war against all the varied forms of weed life, and the third tends to fill the land with humus.

When live stock is kept on the farm to the extent of consuming the major portion of the food products grown, and when the resultant fertilizer made is conserved and properly applied, plant food is returned to the soil for the maintenance of equilibrium in fertility. Notwithstanding there will be some depletion in the meat, milk and wool sold, and in the food used in generating working power in horses. This depletion, however, may in many instances be made up in a large measure, if not entirely, by growing legumes, and especially those that are deep-rooted, through the nitrogen which they gather from the air, and through the phosphoric acid and potash which they bring up from the subsoil.

When manure is applied and buried on the land, the influence which it exerts mechanically and chemically on the soil is very helpful. It greatly promotes friability in stiff soils and adhesiveness in sandy soils. It arrests and holds moisture from whatsoever source it may come, and it also exercises a favorable influence on the soil chemically in its decay. Results similar in kind follow the burial of sod and the stubbles from meadows.

The keeping of live stock exercises a most salutary influence on the production of all or nearly all other crops, in that it compels the frequent introduction of grass crops into the rotation. When these are broken up, the results upon crop production are very favorable. How this result follows is very apparent from what has been stated above. These results will follow for several years after the grass sod has been buried, in some instances as many as four or five where vegetation decays slowly.

There is a saying that hens and gardens do not go well together. This is a mistake; the hens can be turned into the garden with profit to themselves and the garden, except during certain periods. One of these is just after the seeds have been planted and are coming up. At such a time the hens will do much damage by scratching. Another time when they must be excluded from the garden is when the tomatoes are ripe, as they will pick them. After the plants in the spring have become thoroughly started, the hens can safely be turned in. The more they scratch the better it is for the plants. They also help to keep the plants free from bugs.

The farmer cannot afford to keep his poultry shut up in summer, except during short periods, as mentioned above. The great advantage the farmer has over the city and village poultry raiser is that he can make his poultry work for him. The bug population of every farm is very great, and this population is drawn upon by the fowls.

The waste of grain on every farm is great; but a good flock of hens will glean much of it and turn it into meat and eggs. The farm poultry, utilizes a great deal of the grass that grows in the spring and after the hay harvest, and this is a money-making operation for the farmer. Therefore the farmer must give his fowls free range if he is to get the greatest possible value out of them.

The farmer with several hundred hens will find the movable poultry house a great help in the supplying of natural farm food to the fowls and in keeping them healthy. Small houses built so that flat runners can be placed below them are easily hauled by the horse to any part of the farm. This scatters the fowls over the farm and increases the opportunity for bug picking. The writer has seen this method in practice on some of the large farms, where it proves eminently successful. The fowls being moved frequently on to new ground always have fresh clean grass and never are allowed to eat one spot bare.

The keeping of the flock free from disease is the first great factor in the list of requisites for success.

## DAIRYING SUGGESTIONS AS TO RIPENING OF CREAM

The Finished Article Should Have a Smooth Velvety Appearance.

SLIGHTLY ACID TO TASTE.

(BY DAVE LARKIN.)

How do you ripen your cream? Until ready to ripen, the fresh cream from each skimming should be immediately cooled down to 50 degrees or less, and held in cold storage.

Never mix any fresh cream with the ripened cream just before churning. All that goes into the churn should be evenly ripened and at the right temperature just before going into the churn. Use a thermometer instead of your finger.

From twelve to twenty-four hours before churning you should commence to ripen the cream, according to the time of the year. I always used a "starter" for this purpose. It was made from fresh skim milk right from the cream separator, and preferably from fresh cows' milk.

## CATTLE QUESTION OF FEEDING FROM GRAIN TO GRASS

It is Always a Problem Especially When Prices are High.

WHEN TO TURN TO GRASS.

(BY L. D. HALL.)

The feeding of beef cattle from March to May, between hay and grass, is always a problem, and especially so when feeds are as high as at present. Steers in the feed lot which, under ordinary conditions, should be finished in the dry lot, may in many cases be profitably turned to pasture this spring and fattened later in the season. A rule followed by successful cattle feeders is to turn no fat cattle to grass that can be marketed by July 1; but under present conditions and prospects this rule should be suspended in the feeding of most cattle, except those which are fleshy enough to be finished within a few weeks.

In deciding which fork of the road to take in this matter, age and quality of the cattle should be considered as well as their condition. Two and three-year-old steers of medium and common grades ought generally to be brought to a finish by early sum-



THE FARMER'S TYPE OF CLYDESDALE. This is the style of sire that produces farm drafters that can handle a large amount of work on the farm. The finely shaped body and clean-cut legs make a horse that is serviceable in the field or on the road.

I used a double wall dead air space patented ripening can in my own dairy, but a quart glass fruit can may be used when only a few cows are milked. Sterilize the can and cover and heat a quart of fresh skim milk to about 70 degrees. Put on the cover and set in a warm place where the temperature may be steadily maintained.

In less than twenty-four hours, at this time of the year, the skim milk "starter" should have the right acidity but should not be curdled. A starter thus obtained may not be always uniform, as different samples of skim milk may contain different types of bacteria. But experience will teach the butter maker to quickly determine when and whether the starter thus prepared is satisfactory. But thorough sterilization of all utensils in the preparation of the starter is absolutely necessary.

It is much better to ripen a lot of cream this way than to allow several skimmings of cream to sour and stand at a high temperature for two or three days until over ripe or even spoiled before churning. Be sure to cool down each skimming before putting it into the cream jar or storage receptacle. When kept cool ready to ripen with the prepared starter.

Use of water in the cream up to about 75 to 80 degrees, then add the starter in proportions of one part of the starter to about ten parts of cream. Also starter will be in the proper condition if not curdled. As to lactate all portions of the cream alike with lactic acid bacteria. Keep the cream at 70 to 75 degrees for twelve or more hours, more or less, when the cream will be ready to churn. With a little experience you can time all portions of this work to make the churning hour come about when you are ready to churn.

The ripened cream should have a smooth, velvety appearance and be slightly acid to the taste. If too much lactic acid is developed the curd is firmly coagulated and the process of churning breaks it up into small granules. These become incorporated in the butter and show up in the form of white specks. Butter not only looks bad when thus affected, but putrefactive ferments cause bad flavors when these white specks of casein are prominent.

I described the kind of churn to use, in the last issue of Farm Life, and also the size to select. A barrel churn, "a little too large," is my favorite, as it gives more concussion. Have the churn well soaked by scalding and rinsing with cold water. The temperature of the cream may be from 50 to 60 degrees, according to weather conditions and the ripeness and viscosity of the cream. The breed of cows and time of lactation also has an effect. At this time of the year I usually churn at about 62 to 70 degrees. In hot weather I have churned as low as 52 to 55 degrees. Experience will show how to produce an exhaustive churning. I rely on the Babcock tester to tell me whether I am losing any butter in the buttermilk.

There is so much to say about the actual process of churning, and marketing the butter in a form that will bring the highest market price, that I must defer the description of my own method until the next issue.

mer for two reasons, namely: To avoid competition of range cattle, and because as a rule they cannot be carried on pasture or roughness with a light grain ration as profitably as young cattle of good breeding.

Cattle that are not to be turned to pasture before marketing should be so handled as to use the grain fed to the best advantage. This is a simple matter where high-class roughage like clover, alfalfa or cowpea hay can be secured on a peck of corn a day instead of the proverbial full feed of a half bushel. It is a more difficult matter where cornstalks, straw and timothy are the only roughages to be had. In that case it is highly advisable to use cottonseed meal, linseed oil meal, etc., for fattening steers, and at present prices of corn, such feeds will return their cost several times over. There is a limit to the amount of these feeds which can profitably be used, however, and they are usually most effective when fed not to exceed four pounds per day per 1,000 pounds live weight. Although grinding corn is not generally profitable in winter feeding, it is more likely to prove so with inferior roughage than with clover.

For cattle to be pastured, the regulation of the feed from now until grass must be governed by the time in which they can be made fat. Young cattle to

be grazed without grain should have five to seven pounds of grain per 1,000 pounds live weight, and good roughage is very important. Yearlings and two-year-olds in good flesh and which are to be fed grain on grass may be fed ten to fourteen pounds of grain per 1,000 pounds live weight from now until turned out, with all the good roughage they will eat. Like older cattle, they will pay handsomely for a reasonable allowance of nitrogenous concentrate like cottonseed meal, unless the first roughages are used.

About 90 per cent. of the cattle men in Illinois turn their cattle to grass from April 15 to May 15, and the average date is about May 1, as shown by statistics gathered by the Illinois experiment station. Whether to turn to pasture early or late should be determined by the condition of the cattle, condition of the pasture and prices of feed. The flesher cattle, as a rule, the more growth of pasture should be allowed before turning the cattle upon it, notwithstanding the expense of roughage and labor involved in holding them in the lot. The better the pasture and the more fall growth it contains, the earlier may it be grazed to advantage.



A FUTURE 400-LB. BUTTER COW. This is the type of calf that will make a good dairy cow. Her vigorous, feminine features indicate that she will grow into a good mother.

Few farmers can seem to realize that I would much rather eat hay than a clean manger than to take it up from the manure-covered floor.

So one has a right to be angry with me if I don't get fat when the head waiter through the big cracks in the side of my pen.

I can just feel myself growing when I stretch out in the bright sunshine. Some men seem to realize that I must have something to replace the fat of the whole milk when they start me on skim milk.

Folks think it is funny because we suck each other's ears sometimes after being fed, but if they would give us a little bit of bran to chew on, we would not do it.

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## POULTRY NEED OF AIR IN INCUBATORS FOR THE EGGS

Better Results are Obtained in Number of Chickens and Strength.

FOOD FOR THE CHICKS.

BY W. S. ROSS.

One of our neighbors who was hatching hen eggs in an incubator took them out to air in a moderately warm room when they had been in the incubator fifteen days. She got busy with her work and forgot all about the eggs for over an hour. When she remembered them she thought of course they were all spoiled—chilled to death. But as they were so near hatching time she got them back into the incubator and got an extra good hatch of extra strong chicks.

Another woman had to move when the incubator had been running fourteen days. In a moment, of course, she would lose the eggs, but as it would not cost much decided to move them. She lined two buckets with cloth, put half a mile. She lined the incubator into a spring wagon, had it hauled to the new house, lighted it and put good hatch of extra strong chicks.

Give eggs from an incubator a good airing in a warm room from the 14th to the 17th day. I do so with good results.

Another woman had the usual instructions to keep the thermometer at 102, but happened to have a thermometer that had a long mark at 104. Without looking closely she thought that was meant for the right place. She kept the thermometer at 104 and above the first week before she discovered the mistake, but as the eggs seemed to be doing well she kept them during the rest of the hatch. The result, an extra good hatch of extra strong chicks. She secured 92 chicks from 94 fertile eggs and raised 92 of them.

One day I accidentally pounded up some glass. The chickens ate it as though it was good. It did seem as though they ate it with some gusto, and they ate that. It did seem as though the sharp glass would kill, but it didn't. Since then—about 20 years ago—I have never ground glass all the time where the hens can get it. Last year I had, or rather my wife had, a hatching from an incubator of about 100 chicks. We gave them one glass for a week. It seemed as though such little fellows would not need glass, but we gave them fine glass. About a dozen had bowel trouble and died.

When the next hatch came off there were 85 of them. I ground in a bone meal and a pint of glass just as fine as I could grind it and put it into the brooder the second day, or as soon as the chicks began to peck at anything. My wife said: "Don't give that glass to those little lizzards. It will cut their tender little lizzards." But I said: "It won't more than kill them, and they seem to like it." It has not killed any of the old chickens in 20 years, and a good many of the other hatch did without it.

Let's try it. And we did so. We did not let a chick, not a sick one in the lot, none of them, not a bowel trouble. When they were six weeks old the 85 were all alive, healthy and never saw a live lot of chicks I had all the finely ground glass they eat after they are one day old. We have sick or dumpy chicks.

We only raise a few hundred chicks a year. We hatch in an incubator and raise in brooder in a brooder house. Feed mostly cracked corn and wheat bran, all they will eat. I used to feed bran, but one day I accidentally dropped some bran into the water pan. Awkwardness, I think it was done on purpose. They gathered around it and ate it up in a hurry. I then gave them a dish of bran, and they seemed to like it as well as the cracked corn. That settled the bran question. We now give them all the wet bran they will do well on it with what corn, ground pretty fine, or rather cracked, fine, they will eat. But don't give them corn unless it is baked, or the chicks will balk at it in their crops. They must also have plenty of water all the time.

WHAT THE CALF SAID.

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COST OF RAISING POTATOES.

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In a wet spring with w.e.s.y growth of grass, or in case of a pasture that was closely cropped in the fall, nothing is to be gained by pressing it into service early, and it should be remembered that no food value will be lost by waiting a few weeks. Finally, the high price of feed makes it more or less necessary to disregard the condition of the pasture, and doubtless many will be forced to use their grass earlier than usual this season. Except with young, thin cattle, however, every effort should be made to postpone the date of turning out until considerable more than a "full bite" can be secured.

## SWINE BERKSHIRES WIN OUT OVER OTHER BREEDS

Something About the Care to Bestow Upon the Little Ones.

TROUBLE OF OVER-FEEDING.

BY H. R. HARPENDING.

Some years ago we started breeding pure-bred swine. Upon a farm of 250 acres we maintained a herd of about 35 milch cows, had plenty of good pasture, running water and located but a mile from the express office. We started with Victorias, Chester Whites and Berkshires, keeping a breeding herd of each separate and giving each the same care and treatment. After a trial we discarded the Victorias. We tried both the Davils and Ohio strains, but the litters were small and required too much attention.

We continued breeding Chester Whites with Berkshires, keeping about an equal number of each and giving each exactly the same treatment. After a trial of about three years, we concluded Chester Whites did not pay. They were not tractable; it required considerable more feed to grow or maintain one, and the mature animals were frequently ugly. In fact, we demonstrated to our own satisfaction that we could keep three Berkshires with the same feed required for two Chester Whites, under the same conditions. Last year we have been breeding Berkshires exclusively.

We know of many others who started with two or more breeds and settled down to one, but never knew a breeder to discard the Berkshire for any other.

In summer, the mature animals are maintained almost wholly upon pasture, with only a small ration of whole oats or wheat middlings at night. The pasture is clover, rye, rape and permanent pasture. Our best success has been with rye pasture. We put in two pieces last year, August 26, and commenced pasturing it as soon as it got a fair start on December 7, with some snow on the ground. The good sows and gilts are on the rye pasture, they get lots of exercise, which is a main consideration. It is a main consideration.

During summer months the little fellows run on pasture and are fed twice a day. They get a slop composed of corn, middlings, oats and digester tankage, a by-product of the packing houses, containing about 4 per cent. protein, and we prefer it to oil meal.



PUTTING THE BEST FOOT FORWARD. The young colt with a bright eye, erect ears and light step is the pleasantest animal on the farm to care for. The best time to begin handling him and making him accustomed to his master is when he is only a few weeks old.

For two or three years we had our troubles when weaning pigs. Some of our litters were large, but the best organs, would have white scours, and we have started them when on the nursing by giving a side dish of wheat bran. From the time they are weaned they should be fed twice a day just what they will clean up greedily and no more. If we feed sows with thumps, he is taken away from the sow early, but in pen by himself till he gets good and hungry and runs around squealing a bit several times a day for a day or so. We have never had a Berkshire sow eat a pig. Neither have we ever bred a cross Berkshire sow nor bred or raised a cross Berkshire boar. The Berkshire is not the underdog, but that it once was. The champion boar at St. Louis weighed over 1,000 pounds. The second prize boar weighed 836 pounds. The sows weighed 300 pounds. We have a yearling boar that weighs a couple of hundred pounds and a full brother to a couple of hundred sows weighed 600 pounds at 11 months and 10 days. Their ability to put on this weight with the least possible feed has not been affected by this improvement.

THE COLT'S FIRST WORK.

The first work in the spring is the hardest of the year, and the horses are the least prepared for it.

Young horses should be broken and given some work during the winter and fed a ration of grain.

A sudden change of food for horses is always dangerous, but to start a colt on grain and heavy work when he has had neither is almost sure to be disastrous.

A young horse cannot stand heavy pulling all day on soft ground unless his shoulders have been well hardened by regular work in the collar.

When a horse is tired he is much more subject to colic. Do not change the feed during heavy spring work.

There is much more danger in feeding corn or wheat than in feeding oats.

Water your horses when you first bring them in from the field, then let them eat hay for a half hour and after that give them their grain feed.

Remove the horses' shoes while they are doing their spring work.

Remember the horse has a heavy coat of hair, and will be all the more likely to catch cold and get pneumonia.

During the first week of heavy spring work bathe the neck and shoulders of the horse every night with cold water.

Reduce the feed to least one-half what the horse is not at work.

CARE OF YOUNG LAMBS.

It isn't safe to give the ewes turnips or other roots immediately after lambing. Examine the teats of the ewes carefully, and see that both are open, or you may have a caked udder to attend to.

The lambing pen should be made tight at the bottom to keep the youngsters from wandering away from their dams, and to keep off cold drafts.

If an ewe aborts she should be removed from the lambing shed at once, and all litter and bedding burned and disinfectants sprayed about the pen.

If the ewe's udder becomes hard, or shows a tendency to garget, apply lard and give a vigorous rubbing, after which give a good dose of epsom salts.

The early lamb will shed its teeth in summer or late fall; he has greater power to resist the stomach worm and tapeworm than the late lamb; he is easier to winter the first year, and is more active. The late comer will often stand around in the corner humped up nearly double.

POPULARITY OF BACON AND EGGS.

Out of forty-two counties in Canada the Yorkshire is the favorite breed. Tending the country as a whole, the tendency is to produce more hogs of the bacon type. In the western part Berkshires are being used considerably, but in the eastern counties Yorkshires are far in the lead.

Although swine breeders of the United States are not so much in favor of the bacon type of hog, still the Yorkshires are gaining in popularity every year. A type has been developed which approaches the fat hog type more nearly than those hogs raised in Canada.

## ANSWERS TO CORRESPONDENTS

NOTE—Not more than one question from one correspondent can be considered at one time. Questions should be specific, clear and concise, and should be addressed to the Editor of the Agricultural Department of this paper. Any person requiring answer by mail must enclose stamped envelope.—Editor.

Hoof Injured.—Subscriber, I have a colt that was injured by running a piece of wood in the toe and under the frog. The trouble was not located till the hoof, ankle and hock were badly swollen and there was considerable fever. The swelling broke at the ankle and most of it subsided except in the hoof. What do you advise? Ans.—Inject hydrogen peroxide once daily and be sure the hoof is cut out to give good drainage.

Alling Horse.—O. H., I have a five-year old horse that when driven or worked tucks up his belly in the flanks and is as lim as a rail; seems tender on right side at flank; when turning to right he is awkward and keeps jumping over with hind feet instead of stepping; when bit is in mouth he slobbers, seems very nervous and gets excited and sweats readily. Ans.—Better give the horse a long rest and apply a good liniment to the sore place.

Sheep Alling.—W. S., What is the trouble with my sheep? They grind their teeth and jerk their heads and some throw themselves over backwards. They have spells of blindness, stagger about and appear stupid. Ans.—They may have recovered after lambing. I have fed them prairie hay and shelled corn, about 2 bu., for 200 sheep to range every day. Ans.—We think the trouble is due to lack of exercise. They should be let out to range every day.

Periodic Ophthalmia.—E. O.—"A mare 3 years old has spells of blindness every four or eight weeks and remains so a week at a time. Sometimes one and sometimes both eyes are affected. A white scum forms over the eye and a small amount of matter runs from it. Is it contagious? Ans.—Periodic ophthalmia or moon blindness is very difficult to cure. Iodide of potassium in 1-2 dram doses twice daily for a month is worthy of trial. It is not contagious and usually causes the eye to become blind.

Colt Alling.—P.H.A.—"Have a horse colt ten months old who passes an abnormal amount of liquid fluid the color of tobacco juice; his hind quarters will be all wet in the morning. Eats and drinks good and is in good flesh. Sucked healthy mare until he was nine months old. Is fed timothy hay with about three quarts oats daily and bran, manure occasionally. Keep salt and ashes before him all the time. Gets out every morning early and has been troubled with above affliction all winter. Ans.—Try a change to wild hay and don't wet the bran you feed. Use 8 oz. each of sodi phosphate and catch phosphate. Give one teaspoonful in feed 3 times daily.

Cows Too Fat.—H. E. M.—"Can you tell me what is the matter with my cows? I have had three freshen lately who are giving scarcely any milk. Before freshening their udders were large, apparently full, but a few days after freshening they relaxed and look more like dry cows. They have been well housed all winter, fed good timothy hay and corn fodder, watered twice a day and salt every day, and about two weeks after freshening I gave them two quarts ground feed each, daily, viz., bran, ground corn and barley, increased the quantity after freshening, but so far has not made any improvement in the flow of milk. Ans.—Possibly they have taken on too much flesh.

Heifer Dies.—G.F.C.—"We found our four-year old cow lying dead in her stall. She was lying in a perfectly natural position, excepting her head had dropped over on one side. She was apparently in good health the day before and was milked that evening as usual, and the next morning was dead, seemingly without a struggle. Upon opening her, every organ was in perfect health, but the inside of the first stomach, which was gone in spots and what was left was very tender and rotten. She had been fed entirely on hay the first part of the winter on upland and for several weeks on sough hay; had had all the water she would drink and drank heartily. Please tell us, if you can, what was the trouble. Ans.—Animals sometimes die suddenly with heart trouble same as people. We can't give exact cause of death in this case.

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