DESERET EVENING NEWS.

Monday, . . . February 22, 1869.

SERICULTURE.—FEEDING THE WORMS.

BY LOUIS A. BERTRAND.

XI.

Now we will go back and attend to those little fellows that we took from the papers containing the eggs and placed upon other papers, and attend to their wants. Their first and almost only want is food. There is one thing, however, of almost as much importance to their healthy existence that they *do not* want, and that is, they do not want to be too crowded or thick to either. For the first few days they require to be fed on the most tender leaves, which should be given to them directly from the tree, perfectly fresh and only a few at a time, removing them as often as the last given them are consumed. As the worms grow older and stronger, give them older and stronger leaves. But this rule should always be most faithfully adhered to: *Feed them but a few at a time, renewing them as often as those last given them are consumed.* If this rule be strictly followed, you will never see wilted or dried leaves, but always fresh ones, before the worms. There is but one exception to this rule of fresh leaves, and that occurs on the days of moulting, when, as before remarked, they should have none. There is no absolute invariable rule as to the exact age when the several moultings occur, for the reason that the life of the worm, from the day of hatching to the spinning of cocoons, depends in a great degree on the favorableness and uniformity of the weather, the frequency and regularity of feeding with fresh food and the quiet allowed them while moulting. The different varieties of worms also vary as to the period of their whole lives, as well as to the time between each moulting. As a general rule, however, under favorable circumstances the several moultings will occur as follows: The first moulting when about five days old; the 2d when nine days old; the third when fifteen days old; the fourth when twenty-two days old. Whenever the worm is about to commence moulting, he leaves off eating, attaches himself rigidly to the most handy thing he finds and stretches up his head as if in pain. The forepart of his body increases and the latter part decreases in size, and the whole body assumes a glossy appearance. Thus he continues to swell up about the head until the old skin bursts and slips back towards his tail. He then crawls out of the old skin a changed being, looking shriveled and gaunt and hungry, and at once begins to look for his food

When care has been taken to keep the worms of the same age only, together, and they have been fed carefully and uniformly, all the worms on the same paper, or on the papers of the first day's hatching, will go through these several moultings at the same time. And so of the second and third day's hatching. Thus, when one worm wants to be quiet, and absolutely requires it, so does every other one on the same paper, and consequently all are gratified, no one crawling over or disturbing the other. Experience teaches that upon a proper separation of the several day's hatching depends, as much as upon any other thing, the success of a feeding and consequent success of a crop of silk.

Next to proper care in feeding often and on fresh food, and keeping the worms of the same age together, it is important, as intimated above, that they should be properly thinned and spread out over greater surface as they grow larger. They should have room, so as not to be required to lie one upon the other too much. This is necessary for convenience in getting at their food, and is very essential to the healthful growth and maturity of the worm. Besides the exercise of judgement, assisted by the appearance of the worms themselves, it may be well to be guided in thinning them out by the rules laid down in this chapter as to the space required for five hundred thousand worms in the several ages. To make this subject familiar, I will here state the space required for that number of worms, in connection with the amount of food they will require for consumption during each of the several ages.

Five hundred thousand worms for the first age should be allowed one hundred square feet of surface, and it is estimated that during this age, or the first five days of their existence, they will consume one hundred and twenty-five pounds of leaves. During the second age, or the next four days of their lives, they should occupy about two hundred square feet of surface, and will consume three hundred and seventy pounds of leaves. During the third age—from nine to fifteen days old—they should occupy about four hundred and fifty feet of surface, and will consume eleven hundred and fifty pounds of leaves. During the fourth age—from fifteen to twenty-two days old—they should occupy one thousand and one hundred feet of surface, and will consume three thousand four hundred and seventy-five pounds of leaves. During the fifth and last age—from twenty-two to thirty-two days old—the age of going to spinning—they should occupy two thousand five hundred square feet of surface and will consume nineteen thousand eighthundred and seventy-five pounds, or about two thousand pounds or one ton per day—making in all about twenty-five thousand pounds, or twelve and one-half tons of leaves.

It will be seen by the above statement that while the worms occupy but little space and eat but little during the first half of their lives, they spread out rapidly and eat voraciously during the last half; consequently, while the work of feeding and attending to them is light during the first three ages, or first half of their existence, it becomes very considerable during the last two ages. These considerations have led, of late years, in most countries where to economize labor is desirable, to the adoption of what Mr. Louis Prevost styles the California mode of feeding. After the first two moultings, when the worms begin to move about pretty easily, instead of picking the leaves one by one from the tree and feeding them to the worms on a flat surface, you take your pruning shears and horse and wagon and go into your plantations, which must be cultivated in dwarf form. Beginning at one side of the field and clipping off the straight shoots from each tree as you follow the rows back and forth, throw them by the armful into the wagon till you have gathered the required quantity for one feeding, and drive to the cocooney. Taking an armful of these branches, you lay down four in the form of a square on each paper containing worms. The worms gather along the branches and devour the leaves from them. The next feeding, you proceed in the same way, laying the branch each succeeding feeding on those before laid on; thus you build up a little square pen for each collection of worms all through your cocoonery. The worms work up from the stripped to the fresh branches, and in this way they are raised from the flat surface, where they are necessarily in contact with their own offal and filth, up into the air above it. This mode of feeding has many advantages, both in the manner of cultivating the mulberry tree in plantations as dwarfs, to which it has led, and in the feeding of the worms. First: because you can gather the food much easier and faster; second; you can produce much more to the acre than by the old orchard style of standard trees; and third: leaves thus grown, on trees pruned back are more vigorous and contain more of the resinous substance from which the silk vessels of the worm are filled. The advantages of this mode, as to feeding may be stated as follows:

First. The greater facility of handling a given quantity of food.

Second. The greater length of time the leaves thus adhering to the branches will remain fresh.

Third. It gives the worms a freer circulation of air, keeps them clean, and consequently more healthy and vigorous.

Many beginners believe that the above mode of feeding is a modern invention. To correct that false notion, I will state here that it has been practiced by Japanese breeders from time immemorial.

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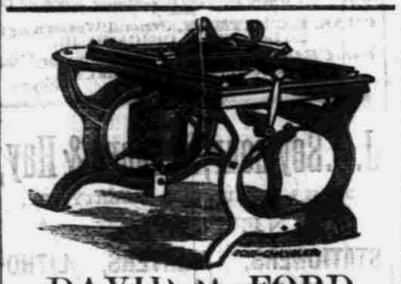

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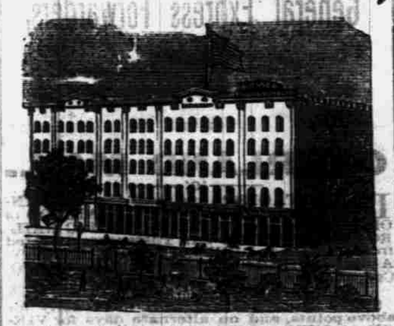

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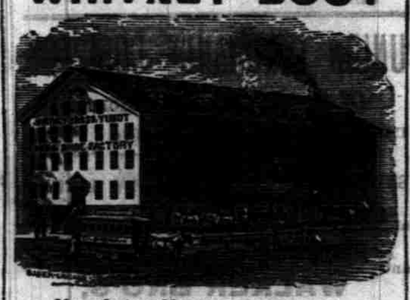

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