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Memo. No. 51.

By article 7 of the instructions of Mr. Kawase Aideharu, issued on the 27th of May last, fifty persons are to be instructed by Mr. Jones in all matters connected with Sheep husbandry, at a model farm the establishment of which, in the vicinity of Tokai, has been decided upon. However, it is apprehended that, until the farms, pastures, grazing grounds, etc. are in order, these students will, of necessity, have much leisure time on their hands, unless something is devised to keep them fully occupied. As the period during which this state of affairs may prevail is likely to exceed one year, or perhaps eighteen months, the advisability of considering the matter is

apparent. In this, however, we must not lose sight of the fact that, it being intended that these students shall hereafter be used as so many practical teachers to the agricultural classes of the Empire in all those localities where the introduction of sheep shall be judged expedient, only those studies which bear, either directly or indirectly, upon the speciality to which they intend devoting themselves can be recommended. In this respect, a general course of lectures upon the relative merits and requirements of the various breeds of sheep in the world would first suggest itself to the mind as being apt to pave the way to a solution of the problem as to which is the best breed to introduce in Japan, were it not for the fact that theoretical knowledge

in the consideration of this subject is likely to be of very little ultimate use. For, from all I can gather from books on this subject and from what Mr. Jones himself has told me, it seems that that gentleman and his associates will have to do in Japan exactly what has been done almost everywhere else, and that is, to produce, by means of skilful crossing as recommended by many months of reflection and observation of the climatic circumstances of the country based upon previous long experience of sheep raising, a breed of sheep that will be to Japan what the celebrated Southdown (a species of the *ovis anglicana* Lin.) is to Scotland, where, owing to a variety of causes, an animal easily fed, of great endurance yet producing both wool and food, and such as was

to be found nowhere before it was introduced there, had to be created by the raisers.

In this position, the study which most naturally recommends itself is that of sheep food. As Mr. Jones has stated in his report, and as we find it mentioned in all treatises on sheep raising, sheep food can be divided in a country like this into two broad and general classes, viz-

1st That which the animal eats while it is loose, or parked out of doors on the pastures either natural or artificial.

2nd That which is given to it when, owing to the dampness of the atmosphere, the presence of snow on the ground, or other causes, it must be kept in the sheep fold.

The large natural and artificial

pastures and fields wherein to raise
turnips, beet root, potatoes and other
rich and aqueous food which Mr. Jones
and his associates are now laying
out will furnish both these classes
of food, whatever may be the kind
of animal introduced into Japan.
To render remunerative the clearing
and culture to which this will lead,
the operators, as a matter of course,
will look to the income which they
may derive not only from the sale
of sheep and their wool, hides, horns,
etc., but also to that of the various
products of the land upon which the
animal will live, among which must
be reckoned the cattle and horses
raised for agricultural purposes, hogs
and poultry living on the refuse of
the sheep food, and other sundry
material, the product of the farm,

which, although having, as would appear at first sight, no direct importance in the consideration of this scheme, are nevertheless intimately connected with it. For, if they do not directly constitute the material upon which sheep feed, they nevertheless furnish the means of raising this material at a cost that renders it economically available.

If what I have said above is true, it is clear that the greater the judgment displayed in devising means of culture and utilizing the produce of the farms for the sustenance of animals, the more profitable will the raising of sheep prove to the operator. If, therefore, the culture adopted, besides fully accomplishing its ultimate object, the sustenance of sheep, should also offer other sources of profit besides

those directly connected with the raising of sheep, of course the operations of the grower would be so much the more lucrative, and the undertaking, by recommending itself in a corresponding ratio to the people, would be more likely to attract them; and thus the scheme of introducing sheep into this country through private enterprise would progress more rapidly.

From information furnished to me by Mr. Jacquet, a gentleman who represents himself as having been sent here by the Khedive of Egypt to study, from an economical point of view, the indigenous products of Japan, I am led to believe that Mr. Jones and his associates would be greatly assisted in attaining this desirable result

if, in addition to the culture which has already been decided upon as stated above, that of three shrubs that grow wild everywhere on the hills of Japan should be successfully introduced. These shrubs are:—

1st A species of *Foene* (*oleaceae*) on which the olive tree could probably be grafted.

2nd Another shrub, apparently of the laurel family (*Sauraceae*), bearing a highly oleaginous berry.

3rd The wine tree (*ampelideae*).

As Mr. Jacquet in his letter to me (Enclosure No. 1) submitting these ideas, has failed to give some necessary explanations of the relative merits of these shrubs, I may be pardoned if I attempt to supply the deficiency by offering some remarks on each of them which, if they will

not exhaust the subject, may yet serve
as an introduction to it.

By an inspection of the statements
of the consumption of food by sheep
raised in France, I see that cakes
made from the residuum in the
fabrication of olive oil, and green
leaves of the vine bee salted for
preservation, form important items;
and thus the introduction into Japan
of the culture of the wine tree and
the olive tree grafted on the Troene
might be made a two-fold source
of profit, - first, that derived from
the sale of the olives and the oil
made from them and of the grapes
and the wine made from them; and
second: that obtained from the sheep,
which would derive part of their
food not only from these shrubs
themselves, but also from the residuum

from the manufacture of articles obtained from the fruits they would bear.

The culture of the olive, if undertaken for the sole purpose of furnishing food for sheep, would not be profitable; but, when taken in connection with the oil it would produce and the profits derived from the sale of the sheep it would contribute to feed, then it would be highly lucrative.

The soil of Japan is eminently adapted to the raising of oleaginous plants, as we may see by a reference to the list of the numerous varieties of plants of the kind that grow wild in the country. And therefore it is to be presumed that the olive, either by itself or grafted on the Japanese tree, would do well here.

The tree itself, of which there are many varieties in Japan, apart from its merits as the means which it may offer of introducing the olive in this country, would be a valuable plant, as the berry it bears presents characteristics that would lead one to suppose that it could be used as a substitute for coffee, whose shape it resembles and whose flavor it has after being roasted. There are reasons to believe that the berry would improve by cultivation; but whether this would cause it to lose its flavor, from which, so far, it appears to derive its greatest value, has not yet been ascertained; but it is not likely that it would any more than coffee does. The berry of the tree grown outside of Japan has not the flavor by which the many varieties

of this Country are distinguished; and this may account for its not having yet been put into use, either as a domestic or manufacturing material, any where except in France, in some rural districts of which it serves in making a kind of writing fluid.

The Japanese species, as a substitute for Coffee, not only would find a profitable home market in the course of time, as soon as it is known, but besides might become a valuable article of export both to Europe and the United States, where the genuine Java, Arabic and South American coffees command a high price and are placed beyond the reach of the poorer classes, except in an adulterated form, which has neither the true taste nor the nutritious properties of the genuine berry; and if a cheap

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article like the berry of the croene, which is superior in every way to these pernicious drugs, could be put on the market, it would probably be much sought after. It could easily be grown within the limits of sheep farms, on the sides of the hills in places where nothing else could be raised to any great advantage, or which it would not be advisable to preserve as natural pastures.

The berry of the shrub alluded to under No 2 evidently contains a large proportion of oil, and the shrub itself is said to yield an abundance of fruit. Whether any food for the sustenance of sheep could be derived either directly or indirectly from this shrub, its berry, or the residuum left after the manufacture of oil from it I can not say; but the wood

from it could be used as fuel, and the oil it would produce could be used for lubricating, painting and lighting purposes; and as all these things would form quite a large item in the expenses of the model farm, the culture of this shrub, if it really presents the advantages stated, would prove desirable, on the well accepted principle that the less establishments of this kind have to buy from the outside, the more apt they are to prosper.

As I have said before, the wine tree grows wild everywhere in Japan. The hills in the vicinity of Yokohama and Tokai, and also in the locality where the present Government hotel sheep farm is being established, abound in it. In all these places, even in the deepest

ravines and valleys where it has neither air nor sun, and in which it is choked by the luxuriant growth of other wild creeping plants, it bears abundance of fruit.

The culture of grapes is not a new thing in Japan. But as, until now, the art of making wine has received no attention, only those shrubs bearing the table grape have been raised. The juice of this last grape contains only from 2 to 3 per cent. of alcohol, while that used in the making of wine generally contains from 7 to 14 per cent. of spirit. A tree capable of bearing such grapes as the latter could probably be easily obtained by grafting the best French trees on the Japanese species and submitting them to proper attention and culture. Grapes generally thrive

better in certain expositions than in others. In fact, after competent investigation, it will probably be found that it is only on certain sides of a given hill that a suitable quality of grape can be grown. The caprice of the plant in this will be better understood when I say that there are hills in Burgundy and other wine districts of France, but a very few acres in superficies, upon only one side of which will grow a superior quality of wine grape, while the other sides, although exactly similar to the first in what relates to the composition of its soil, its altitude and everything else except its exposition and perhaps some other inappreciable circumstances, are capable of bearing only a very inferior quality of wine grape. Such hills as could

not bear grapes for making wine could probably grow others for table consumption, a large quantity of which, owing to the near vicinity of the farms to the populous city of Tokio, would form an important and very profitable article of sale there.

Of course, if the grape were to be raised merely for the sake of the leaves it would produce and which the sheep eat, it would simply be extravagant; but when its culture is considered not only in connection with the raising of sheep, but also with that of the wine and fuel it would produce, it ceases to be expensive and becomes remunerative. And if we follow this idea further, we are brought to the conclusion that it is far more profitable to cultivate the wine tree in those districts where sheep and

other animals eating the leaves are being raised than in places where they are not; for in the one instance the leaves are utilized, while in the other they are almost lost.

Sheep-raising is not an occupation that takes up much of the raiser's time. A mere Superintendence, which ought necessarily to leave him much leisure, is all that is required from him, and his assistants; and, as a means of profitably filling up this spare time, no culture seems to offer more advantages than that of the three above mentioned shrubs, if they are as useful as there are good grounds to suppose them to be. The matter ought, of course, to be first investigated by competent men, such as are to be found in the Kaimusho. But if any suggestions should meet

with favor by these persons, I think that nothing better could be done than to cause the fifty students to be located on Mr. Jones' farm to utilize the spare time which they will have for many months to come in waiting, under suitable direction, the necessary experiments for the introduction of the culture of the tree, the olive tree and the wine grape at the farm; and if experience should prove that the cultivation of all or either of these three shrubs could be advantageously joined to that of sheep raising, ample time could be found for the students to carry on both studies, even after the farm shall have been put under full operation. The extra expenses which this change in the original programme would involve would be hardly perceptible, as nothing

would be required but the securing of the services of a competent person to direct the students in their additional studies and the clearing of the sides of a few hills lying within the boundaries of the farm.

If this scheme should be approved of and should succeed, even if Mr. Jones' undertaking should fail to be as much benefited by it as is expected, the country at large would be supplied with an additional source of wealth which would, in some measure, however small it might be, contribute towards bringing back in its favor the balance of trade.

Totten, November 25th 1845.

Respectfully Submitted.

(Signed) Chas. W. de Gendree.

His Excellency

Okubo Tominato,

U. S. J. M's Minister of the Interior.

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copy.Tokio, November 25th, 1845.

Your Excellency:-

According to Your Excellency's invitation, I have the honor to forward my Memo. No. 57, touching various shrubs found in Japan by Mr. Jacquet, and also a copy of that Gentleman's letter to me on the subject. Together with these papers I beg to hand you:

- 1st. Samples of the berries of the *Roene*, both in their natural state and roasted and ground to powder.
- 2nd. Berries from the oleaginous shrub mentioned in the Memo, together with a piece of the stem of the same plant showing the abundance of the seed grown on the tree.

The paper has been written
without pretensions to elegance
of style, and merely with a
view to render its translation
easy.

I have the honor to be
Your Excellency's
Most Obedient, humble servant

(Signed) Chas. W. LeKendro
His Excellency
Okubo Tosimitsu,
H. I. J. M.'s Minister of the Interior
etc. etc. etc.

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Copy of my
Memo. No. 51
to His Excellency
Mr. Okubo.
with my despatch
No. 40 to His Excel-
lency Mr. Okuma

