cisterns, and after dissolving rape-cake and other enriching substances in it, diffuse it over clover and other crops of the same nature, and with the greatest effect on *light* soils; but this is so much liquid taken from the solid manure, which is drier and weaker in consequence.

But in Switzerland the farmers prepare (as M. Dombasle explains the process,) this liquid in a manner which appears to be far less objectionable.

Behind the cattle is a trough of the length of their house, sunk in the floor, and half filled with water, in which the bedding taken from the cattle is soaked every day before it is removed to the dunghill, where it ferments rapidly. The remainder of the liquid is then run off into a tank, where it is left to putrify. The farmers think that by wetting the litter in this way it loses nothing in quality.

It appears from experiments made by M. Sprengel, that diluting *fresh* urine with its own bulk of water has the effect of doubling the quantity of ammoniacal matter, and increasing it *eight fold*, if the mixture (diluted in the same degree) be allowed from two to three months for complete putrefaction. We may possibly explain this: the water added may, by absorbing the volatile ingredients, and thus preventing their escape, make the mixture richer in ammonia, and possibly by checking the temperature, prevent the too rapid putrefaction and consequent loss of nutritive elements. If the water in this instance has the power of preventing their escape, we are led to think that moisture will have a similar effect on horse-dung and other pungent manures.

It seems to me that by adding water to the urine we cannot increase the quantity of ammoniacal matter—we only prevent its escape from the mixture. The same elements for forming ammonia are contained in the watered and unwatered urine, and the same quantity must be generated in both; but as the water may absorb the ammonia which otherwise would pass off, it makes it appear greater in the product of the diluted than of the undiluted urine. The quantity of ammonia derivable from the water used can be but very little indeed—not worth consideration. The diluting, however, may keep the mixture in a cool state, which is quite necessary to its retention of the ammonia.

M. Sprengel used *rain* water in his experiment, which is no doubt somewhat richer in ammonia than other water, but this, too, is a matter of no moment. It is, I think, on the whole, better to retain the urine in the manure, especially if litter be abundant, when we consider the small quantity of urine that can be saved in proportion to the large amount of solid matter, and the benefit arising from mixing warm and cold manures together.—The advantage gained by the general improvement to the entire accumulation, by retaining the whole of the urine in it, may more than counterbalance the sacrifice of so much liquid manure for separate use.

In a word, the grand principle is to keep the dung moist and cool, and therefore the practice should naturally be not to abstract the urine and the liquid manure of the farm-yard from the dunghill. While the manure continues sufficiently moist, there is an absorption of all its volatile ingredients; the reduced temperature prevents the escape of ammoniacal and other nutritive principles.

Next week we shall pursue this subject further; for the present we halt here.—I remain your faithful friend,

MARTIN DOYLE.

From the London Farmers' Journal.

A HINT TO AGRICULTURISTS.

The unexpectedly high price at which corn now ranges is apt to lull the Farmers into a false security. Contented with the present, they may disregard the future. But there are certain immutable laws, however liable those may be to temporary suspension or perturbation, which the wise and prudent never overlook. If a comet does not reach its perihelion at a predicted day, it would be folly to conclude that it had been struck out of the system; it may be retarded in its orbit by planetary attractions, as astronomers have clearly demonstrated, calculating the law of retardation as well as the law of progress: in a similar way it behoves us to inquire whether we are living under a mercantile law which has a general tendency to raise or lower prices, that we may not confound the exception with the rule, or mistake a fleeting for a permanent prosperity. On this point we propose to offer a few remarks based on those monetary principles which have received the sanction of the Legislature, and which must determine the question at issue.

All the mystery of money becomes clear when once we have distinct perceptions of VALUE and PRICE. Value is condensed labour. Price denotes labour and taxation combined. Taxes add nothing to value, but increase the cost of production. Hence it follows that that which measures value accurately cannot also measure price, because the things measured are dissimilar, incompatible, and antagonistic.

Parliament has decreed that our measure of value should be gold, and so far no exception can be taken. It would be a sufficient and mathematical measure had we no taxes to pay, or if the taxes were levied directly on property and not on produce. But that is not our case. Our revenue is mainly raised by Customs, Excise, and Stamps, and as all these add to the cost of production, without adding to the value of the product, gold does not and cannot measure that addition which they cause to prices, for our gold has a definite and invariable price put upon it by the mint, and that price only represents intrinsic value, to the entire exclusion of any tax whatever.

Now let us apply these principles to Free Trade. In exchanging value for value intrinsically, we fear not foreign competition, for in that sense we should only marshal our labour against foreign labour, for, as we have already said, all value is nothing more than condensed labour. But if the foreigner has less taxes to pay to his Government than we have to pay to our Government, and if his standard of living is inferior to our standard of living, then we cannot compete with him on even terms, for it is no longer a question of intrinsic value for intrinsic value; it is a question of intrinsic value *plus* taxation, and the weights of taxation are not balanced between him and us. There it is that the shoe pinches, and there it is that we want and are entitled to protection.

Take a case for illustration. Suppose that a hat were intrinsically worth one pound, or 5 dwts. of gold; but that a tax of 50 per cent. were imposed on hats.—Then the producer would require 7½ dwts. of gold for each hat; because 5 dwts. would represent its value or the labour it condensed, and 2½ dwts. its taxation; but these 2½ dwts. would have added nothing to its intrinsic value, but simply increased its cost of production.

Now let an untaxed foreign manufacturer of hats come into our market to compete with the taxed native producer. It is clear that he would be satisfied with 5 dwts. of gold, which would give him the intrinsic value of his hat. What then becomes of the Englishman? If, to hold his position, he also takes 5 dwts., he must lose 2½ dwts. on every hat he sells; he must, in fact, pay the tax which our wise political economists affirm always falls on the producer. It *ought* so to fall certainly, but we see it does *not*, and it never can, so long as we have free trade with money of intrinsic value.

Now what is true of hats, is true of corn, true of every product of native industry. Let our farmers then look to the future, when America has prepared itself to supply us with wheat, by cultivating some millions of acres. If the currency is not changed before that time, they will see wheat at 34s. per quarter, which is its gold-equivalent intrinsic value.

THE CARROT A SUBSTITUTE FOR THE POTATO.

To the Editor of the Weekly Journal.

SIR—The carrot (*Dulcus Carrota*) is a weed indegenous to almost every district of Britain. While other valuable plants are affected with a tainted atmosphere, the carrot is only occasionally attacked at the root by the common coiling myriapod which good cultivation can destroy. Impressed with the idea that the carrot is the best substitute for the uncertain potato which the cottager as well as the farmer can grow, I offer the following hints for the present preparation of the land, purposing at a convenient season to give my views on the general treatment of this valuable crop.

Immediately select light, dry, deep