had been adequately brought to the notice of the European purchaser. The course of the trade shows that wherever Indian teas obtain a foothold they make their way. But it also shows that they are still scarcely known in the European market. The re-exports of China teas from Great Britain to the Continent and America continue ten times greater than the re-exports of Indian teas. It is no longer entirely a question of tea *versus* coffee for the upper classes in Holland, Belgium, and Germany are beginning to use tea more freely, and medical men have raised the question whether the excessive consumption of coffee has not something to do with the obesity and failure of nerve force which is so common among middle-aged Germans. Curiously enough, it would appear that, next to America, the largest purchaser of Indian teas from Great Britain is Turkey, which, according to the returns, took in 1893, nearly half-a-million pounds. As we pointed out some time ago with regard to America, so also in Europe, the struggle is developing into one between the British capitalist and the Chinese peasant for the tea trade of the world. The Korean war, if sufficiently prolonged, will give the Indian and Ceylon planters another opportunity which they are not likely to let slip.

VARIOUS PLANTING NOTES.

A Dye From Vine-leaves.—Schunk, Knecht, and Marchlewski, three German chemists, as reported in the *Journal of the Chemical Society*, have obtained from brown vine-leaves gathered in autumn a dye that colours wool mordanted with chrome and tin respectively brown and yellow. The substance was obtained primarily as a brownish-yellow, partially crystalline glucosid. When boiled with sulphuric acid this yields sugar and the colouring matter, which is obtained as a reddish-brown powder.—*Public Opinion.*

Grevillia Seedlings.—A writer in the *Madras Mail* gives his experience regarding casuarina seeds. He says:—I planted about half a pound of seeds, and only one or two seedlings came up. I planted some more, and watched results. Squirrels came and carefully removed all those on the surface. Streams of ants appeared from every direction, and each ant as he departed took away a seed. I afterwards succeeded by planting in large pots, setting them in water, and covering them with a wire netting.

Tea Leaves and Insects.—A few days ago we received specimens of withered and sound leaves from the same tea-trees, about 10 years old, and about 7 months from last pruning. The tea in question is at about 4,000 ft. elevation. Dr. Trimen to whom we submitted the specimens has kindly favoured us with the following:—The brown and dry patches on the older leaves are probably due to the attacks of a mite, either "Red-spider" or one of its allies. There are no insects now on the leaves, but their cast skins can be still seen on the dead patches.

A Curious Grass.—In the eighth number of the first volume of *Contributions from the United State National Herbarium, Washington*, is described and figured a curious grass, Chloris longifolia, Vasey, which produces branching panicles on or beneath the surface of the ground. The flowers borne on these subterranean branches are larger than those borne on the ordinary panicles, and are female only. They cannot, therefore, be considered as cleistogamic, and must be fertilised by pollen from other flowers. Amphicarpum is mentioned as a grass with similar habit. It may be that this is a provision against the ill-effects of drought.—*Gardeners' Chronicle.*

Effect of Rain on Plants.—We learn from *Nature* of January 11, 1894, that: "Professor J. Wiesner, who has recently been studying the influence of artifical rain upon European and exotic plants, gave an account of his results at a recent meeting of the Vienna Academy. Some of the plants, called by Professor Wiesner "ombrophobe," can only for a short time stand continuous rain, and soon shed their leaves and decay. Others, called "ombrophil," can stand it for months together. Plants growing in dry places are, as a rule, ombrophobe, but the reverse cannot be said of plants growing under wet surroundings. Leaves appear to gain in power of resisting rain as they develop, and to reach a climax in this respect at the period of their greatest vital activity, after which they loose much of that power. Leaves which can be wetted by water are usually ombrophil, those which cannot are usually ombrophobe, but in cases where leaves are both ombrophobe and easily wetted, they are extremely sensitive to rain. Professor Wiesner thinks that ombrophobe leaves are enabled to resist the putrefactive action of water, especially at high temperatures, by certain antiseptic substances which they contain. The same may be said of hydrophil roots and submerged parts of aquatic plants."—*Gardeners' Chronicle.*

The Papaw Tree.—A correspondent sends us the following paragraph taken from a foreign contemporary:—"Some thirteen years ago we planted a large number of papaw trees at our station at Masasi in the Rovuma district. As these began to grow many proved to be males, and not wishing to occupy our plantation with what we considered to be useless trees, we proceeded to root up and throw away the male trees. Our native deacon who had lived many years in Zanzibar asked us why we did this, since if we wished it, he said we could probably obtain fruit from all or most of the trees we were destroying. Asked how that was to be done he replied, 'By breaking off all the upper part of the tree, and allowing the tree to sprout again from the bare trunk.' We were incredulous, but he persisted that it was a thing commonly done in Zanzibar on the Arab plantations, and induced us at length to make the experiment. It was quite successful. We broke off the entire upper part of all the male trees at a point below all the leaves and flowers. In due time they sprouted again, when we discovered that many of them, though by no means all, put forth this time the characteristic female flower, the 'squat blossom growing close to the trunk of the tree,' which in course of time set, and then the fruit formed in the ordinary manner, and was developed, in no way differing from that of a tree that is, so to speak, a born female. With regard to the others that sprouted again with male flowers, we broke them off again, when a proportion of them on the second occasion would turn out females. Others we tried three or four times in the same way without succeeding in changing the sex. In all cases where male trees changed into female in this way, female trees were growing in close proximity to them. We would like to ask experts whether what we are now describing is known to them, and in what way it is to be accounted for. So little did we see a good reason for the tree on being broken off, sprouting again of the opposite sex, that until the phenomenon really occurred we felt that we were behaving in a manner worthy of the pork-butcher, who, noticing that the Asters in his garden were more than usually streaky, attributed the fact to his having buried a side of bacon in their vicinity the year before. After all though, and for aught we know, it may be as well known to naturalists as to others, that by the means we have been describing papaw trees may be induced to change their sex."—*Journal of Horticulture.*