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## Clonal Tea Relies on Selection, Not Alteration

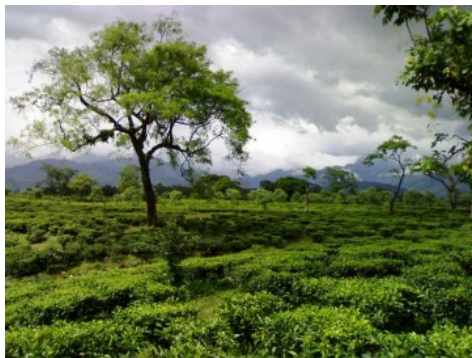
By: World Tea News | April 18, 2016



By Stephenie Overman (with contributions from the World Tea News team)

"Clonals select, GMO [Genetically Modified Organism] alters, the composition of the plant," Peter GW Keen writes in the [March 15 Teabox e-letter](#).

In crafting clonal teas, "selectivity is the driver and skills in every aspect of management and farming are the vital base for turning invention of new varieties into market innovation," according to Keen.



The term clonal or cloning, as used with tea, has sometimes been confused with GMO, according to Peter F. Goggi, president of the Tea Association of the U.S.A., Inc. But "clonal refers to cultivars developed through vegetative propagation and have nothing to do with genetic engineering."

The association is not aware of any commercially available tea product resulting from genetic modification, Goggi added. As a result, any certification, declaration or labeling of tea as "non-GMO" is superfluous. "Like label-

ing a banana gluten-free."

It is important to understand the difference in the way the terms "genetic engineering" and "genetic modification" are used in the United States. According to the [USDA's Glossary of Agricultural Biotechnology Terms](#), genetic engineering requires adding, deleting, or moving specific genes in an organism while genetic modification may use these engineering techniques or it may rely on capitalizing on natural mutations, reselections or controlled breeding, as occurs with creating clonals. In countries outside the U.S., "genetic modification" is used specifically to refer to the genetic engineering techniques described above.

Why are clonals useful? An advantage to clonal teas over using more traditional methods is that the yields are substantially higher, but the process is expensive, Keen notes in his e-letter. Propagators must target, and then enhance or suppress, traits in growth and/or the form and structure of the leaf. One mother bush may provide just 50 to 300 healthy cuttings a year.

"The biogenetics and propagation work is at the molecular level; you can't just cut and replant,"

he writes. "This is a very expensive transition, in terms of time, method, skills and management. It is directly analogous to moving a new electronic product from R&D through prototyping and on to production and distribution."

But, in the end, there are rewards for such effort. For example, Keen writes, Kenya's Tea Research Institute spent 25 years developing and launching a unique clonal, TRFK 301/2, to create a tea that Keen notes may transform its industry. The new clonal commands a price that is three to four times higher than standard black tea leaf, Keen writes.

SOURCES: [Teabox](#), [Tea Association of the USA](#), and Peter Goggi (Tea Association president)



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GMO, tea clonal

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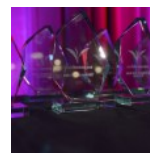
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