

Discussion on the relationship between Wuyishan tea quality and geochemistry background characteristics

HUANG Yan^{1,2}, CHEN Guo-guang¹, LI Xue-ping³

(1. Nanjing Center, China Geological Survey, Nanjing 210016, China;

2. China University of Geosciences, Beijing 100083, China;

3. Fujian Province 121 Geological Brigade, Longyan 364201, China)

Abstract: In order to evaluate the relationship between tea quality and soil geochemistry background in the main productive areas of Wuyi Rock Tea, we report the soil physicochemical characteristics and essentials of tea quality (e.g. tea polyphenols, caffeine and amino acid). These facts, as well as previous data are used for bivariate correlation and linear regression analyses and evaluate the influence of different geology backgrounds on tea quality. Those analyses indicate that tea polyphenols contents are positively correlated with pH values, but negatively correlated with Ni abundances of the soil, the caffeine contents, are positively correlated with Cu, and amino acid contents are positively correlated with pH values and K content. In addition, the contents of tea polyphenols and amino acid increase with the increase of pH values, K and Cu values, respectively, suggesting the K and Cu of the soil would accelerate the formation of amino acid and caffeine but Ni would inhibit the accumulation of tea polyphenols. Thus, the quality of tea in different geology backgrounds is shown as red bed area > Qpal area > metamorphic rock area > fine sandstone area.

Key words: tea; quality component; soil element; correlation analyses; linear regression analyses

城市地上地下一体化大数据信息平台助力杭州智慧城市建设

城市地上地下一体化大数据信息平台是将城市地质信息纳入城市规划、建设、管理主流程的重要平台。将城市地质调查获取的地质资料和成果收集、标准化处理、检查并入库,建立多源、异构、海量地质数据的“地下数据中心”,综合利用GIS、三维地质建模、数据库等技术,构建地上地下一体化三维可视化决策支持平台。

2018年10月以来,“杭州多要素城市地质调查”二级项目以“钱江新城”为示范,构建了杭州城市地上地下一体化大数据信息平台,将城市地上建筑、地下商场、停车场、地铁、地下管线等数据进行三维可视化及地上地下三维全空间模型融合,实现了地上、地下一体化的透视管理与辅助决策。2020年5月26日,该平台已在杭州市调查监测中心(原杭州地理信息中心)“杭州政务云”进行部署,系统完成测试及调试后,杭州市相关部门通过政务内网,可在线使用“地下空间综合应用子系统”、“专项应用子系统”等前端应用系统实现地下空间数据共享、地下空间开发利用辅助规划、重大工程选址选线辅助决策、地上地下一体化协同规划等应用服务,为杭州新型智慧城市建设和高质量发展提供有力支撑。

(中国地质调查局南京地质调查中心 邢怀学,葛伟亚,华健,常晓军,康丛轩,蔡小虎)