Abstract

The Arid Zone of Rajasthan is a vast reservoir of desert plants. The seed oil is an important product obtained from the wild plants. The fatty acid composition of seed oil is a key point to determine the application of oil in a specific field. The properties of seed oils of eight plants from Arid zone of Rajasthan like fatty acid composition, saponification value, iodine value, viscosity, flash point, fire point, cloud point and pour point were determined by usual analytical methods. The Artificial Neural Network was applied to predict the relative significance of fatty acid composition of vegetable oil affecting the biodiesel properties. Iodine value predicted from ANN was found to be nearly the same as determined by analytical methods. It was concluded that the results predicted from ANNs were more precise as compared to the linear regression
model. The effects of input variables show quantitative effect on seed oil properties.

References

- M. M. Bhandari, Flora of Indian Desert, MPS Reports, Jodhpur, 1995.
- R. J. Hamilton, &apos;lipid Analysis in Oils and Fats, &apos;Springer Science and Business Media, 1998 XXII.
- The International Pharmacopoea-Fourth Edition IV Supplement (apps. who.int/phit/en/p/docf.)
- Standard Test Method Of Determination of Iodine Value Of Tall Oil Fatty Acids ASTM D5768-02(2014)
- Lubrizol Test Procedure-TP-AATM-112-01, Oct 16, 2006
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