

NOTE**Chemical Examination of *Abutilon indicum*,
Tamarix gallica and *Xanthium strumarium***

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Nitrogen, protein, amino acid and vitamin were estimated in three medicinal plants viz., *Abutilon indicum*, *Tamarix gallica* and *Xanthium strumarium*. *Xanthium strumarium* contains more amount of nitrogen and protein. *Abutilon indicum* contains vitamin and sugar in comparison to other two plants.

Key Words: *Abutilon indicum*, *Tamarix gallica*, *Xanthium strumarium*.

Abutilon indicum (also called Khanghi Ghas)^{1,2} belongs to family Malvaceae and has medicinal properties. It's a hairy under-shrub with golden yellow flower and found abundant throughout the India along road sides. The leaves are useful as a demulcent and possesses significant analgesic and antifungal activities. Its decoction is give in diarrhoea, bronchitis, inflammation of the bladder.

Tamarix gallica Linn. the species of Tamarix, commonly known as Tamariskis (local name Lal Ghauo)^{1,2} and belongs to Tamaricaceae family. A large genus of graceful shrubs distributed in the temperate regions of Asia, prefer alluvial soil but also grow on saline and alkaline soil also. Its bark of the twigs and the galls are astringent. Infusion is given in one to two doses in diarrhea and dysentery.

Xanthium strumarium (family compositae), commonly known as Lal Gorkhu^{1,2} is a wild annual herb found throughout India. It is emollient, sedative, diuretic, sailagogue, antiscrophulous and strongly diaphoretic. The fruit is also tonic, diuretic diaphoretic, sedative, cooling and demulcent.

The plants were collected from US Nagar region and identified botanically at Forest Research Institute, Dehradun. The plants were washed with water dried at 60 °C in an oven and ground for chemical examination.

Nitrogen and protein contents were determined by Kjeldahl method³. The amino acids were identified and estimated by co-chromatography^{4,5} and photochemical calorimeter⁶. Sugar were identified and estimated by Anthrone method and spectrophotometric method. Vitamin A was identified

by Carrprice method⁷, vitamin B identified by thiochrome reaction method and vitamin C identified with ammonium molybdate reagent. The results are given in Tables 1-3.

TABLE-1
AMINO ACIDS mg/100 g OF DRY MATTER BASIS

	<i>Abutilon indicum</i>	<i>Tamarix gallica</i>	<i>Xanthium strumarium</i>
Glycine	28	ND	2
Leucine	2	ND	2
Alanine	ND	4	12
Tyrosine	ND	2	3
Valine	3	ND	ND
Iso-leucine	14	ND	4
Tryptophane	ND	5	3
Histidine	6	30	ND
Serine	24	ND	ND
Cysteine hydrochloride	4	5	20
DL-nor-Leucine	12	2	ND
Methionine	4	3	4
Amino- <i>n</i> -butyric acid	12	4	2
Hydroxyproline	2	ND	2
Phenyl alanine	10	12	ND
Theonine	30	ND	14
Ornithine	ND	4	6

ND = Not detected

TABLE-2

	<i>Abutilon indicum</i> (%)	<i>Tamarix gallica</i> (%)	<i>Xanthium strumarium</i> (%)
Nitrogen	5.500	5.450	7.500
Protein	34.375	34.062	46.875
Total sugar	5.500	3.600	7.000
Reducing sugar	1.070	0.740	2.250

TABLE-3
AMOUNT OF ASCORBIC ACID mg/100 g SAMPLE

Dry matter basis (%)	<i>Abutilon indicum</i>	<i>Tamarix gallica</i>	<i>Xanthium strumarium</i>
Vitamin A	Trace amount	Trace amount	Not detected
Vitamin B	1.2 %	0.7 %	1.4 %
Vitamin C	Not detected	Not detected	Not detected

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