

# Relative Forage Quality of Trees

RFV and RFQ are two different indices that let us compare different forages quickly. The RFQ has been created to overcome the weakness that the RFV has, such as the fact that two forages with the same RFV do not always perform the same. RFQ has proven to be the easier and more reliable index when looking at feed value.

The trees in RAIN's study have a very high value for both RFV and RFQ. While suitable as short-term forage, the leaves and young stems may not have enough indigestible fibre for optimal rumen health.

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In 2007 a short rotation woody coppice plantation was established by the Canadian Forest Service to assess the potential of fast growing willow and poplar for bioenergy. A section of this plantation was fenced off in 2015. The idea of this project was to determine if willow and poplar regrowth would be an adequate food source for sheep to browse on. While suitable as short-term forage, the leaves and young stems may not have enough indigestible fibre for optimal rumen health. When the trees were analyzed, Relative Feed Value (RFV) and Relative Forage Quality (RFQ) were taken into account. RFV and RFQ are two different indices that let us compare different forages quickly. RFV is a comparison to full bloom alfalfa, which is 100; other feeds may score higher or lower depending on their ADF and NDF contents, which are estimates of digestibility and dry matter intake. RFQ is a more robust calculation that factors in crude protein and fatty acid contents, as well as fibre.



The RFQ index is an improvement over RFV when someone is buying or selling forages as it can better predict the performance of cattle fed that forage. The RFQ has been created to overcome the weakness that the RFV has, because it is only based on fibre. RFQ has proven to be the more reliable index when looking at feed values. When looking at the nutrient analysis the trees have a very high value for both RFV and RFQ. The chart (below) shows the typical value for alfalfa on both RFV and RFQ for comparison. Note that tree varieties SV1 and SX61 have virtually the same RFV but rather different RFQ values.

Alfalfa		120-130	110-139
	Sample ID	RFV	RFQ
Willow	CHARLIE	118.96	186.18
Willow	PSEUDO	140.37	180.82
Willow	HOTEL	147.49	167.36
Willow	INDIA	133.59	198.12
Willow	SV1	169.53	218.50
Willow	SX61	169.76	202.01
Willow	SX64	161.82	218.83
Poplar	2293-19	174.47	229.51
Poplar	DN-136	180.94	196.21
Poplar	NM-6	182.47	195.03
Poplar	NM-1	145.72	199.73
Poplar	DN-34	165.27	188.10
Poplar	BROOKS 1	181.56	214.67
Poplar	GREEN GIANT	177.24	209.12

