

Terms

¥ dNDF is expressed on dry matter basis

¥ NDFD is expressed as % of NDF



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Revising Relative Feed Value

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Relative Feed Value

¥ Is index of forage quality

¥ Relative to full bloom alfalfa



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Uses of Relative Feed Value

¥ When to harvest

¥ Allocation of hay to animals

¥ Buying/selling hay

¥ Contracting for harvest with quality incentive



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Relative Feed Value =

$(\text{Intake Potential} * \text{Digestible DM}) / \text{Constant}$



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Relative Feed Value (Current)

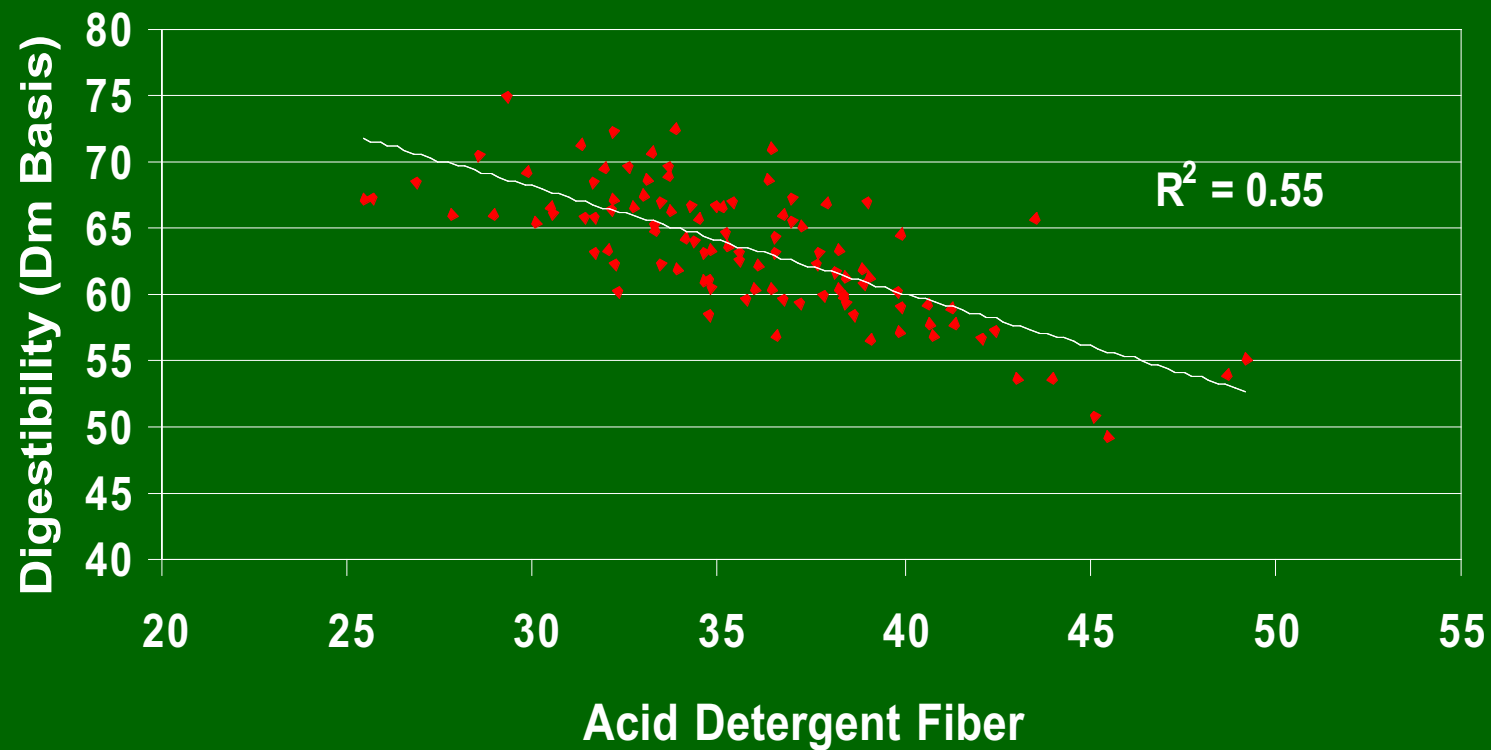
$$\text{Intake Potential} = 120/\text{NDF}$$

$$\text{Digestible DM} = 88.9 - (0.779 * \text{ADF})$$

$$\text{Constant} = 1.29$$



Comparison of ADF to *in vitro* digestibility of alfalfa



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Relative Forage Quality (RFQ) =

$(\text{Intake Potential} * \text{TDN}) / \text{Constant}$



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Proposed Relative Feed Value

Intake potential (dIntake)

= base intake plus adjustment for dNDF

= base intake + ((dNDF- Lab average dNDF) *.374)

From Oba and Allen, 1999, J Dairy Sci



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Proposed Relative Feed Value

Total Digestible Nutrients (dTDN)

$$= \text{dNFC} + \text{dCP} + \text{dFA} * 2.25 + \text{dNDF} - 7$$

$$= [(\text{NFC} * .98) + (\text{CP} * .93) + (\text{FA} * .97 * 2.25) + \text{NDF} * \text{NDFD}] - 7$$

From NRC, 2001



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Proposed Relative Forage Quality (RFQ)

$$\text{RFQ} = (\text{dIntake} * \text{dTDN}) / 1.23$$



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Comparison of RFV to RFQ

	<u>RFV</u>	<u>RFQ</u>
◦		
Mean	134	134
Min	90	68
Max	188	207
Std	20.4	32.1



RFV vs RFQ using base intake = 1.2% of BW

$$\text{DMI, \% BW} = ((.012 \cdot 1350 / (\text{NDF} / 100)) + (\text{NDFD} - 52.6) \cdot .374) / 1350 \cdot 100$$

$$\text{RFQ} = \text{DMI} \cdot \text{TDN} / 1.23$$

