Biographical Sketch: Jess D. Reed, Professor

PROFESSIONAL PREPARATION

Oregon State University, Corvallis, Oregon	Animal Science	B.Sc., 1975
Cornell University, Ithaca, New York	Animal Science	M.Sc., 1981
Cornell University, Ithaca, New York	Animal Science	Ph.D., 1983

APPOINTMENTS

Professor, Dept. of Animal Sciences, University of Wisconsin – Madison	7/1/1999 to present
Associate Professor, Dept. of Animal Sciences, University of Wisconsin – Madison	7/1/1995
Assistant Professor, Dept. of Animal Sciences, University of Wisconsin – Madison	1/1/1989
Nutritionist, International Livestock Centre for Africa (ILCA), Addis Ababa, Ethiopia.	3/3/1983

RESEARCH

Jess Reed is Professor of Animal Nutrition at the University of Wisconsin-Madison with a BSc (1975) from Oregon State and MSc (1980) and PhD (1983) from Cornell. He researches the effects of phytochemicals on animal and human nutrition and health. His early research during his thesis studies and while at the International Livestock Centre for Africa focused on potentially toxic and anti-nutritional phytochmeicals in tropical forage legumes. Highlights of this research included studies on the interactions between proanthocyanidins, protein and fiber in forages in relationship to methods of estimating nutritional value. Reed's research interest has recently shifted to studies on the chemistry of food tannins in relationship to putative effects on human health and nutrition. This research includes development of phytochemical methods for characterizing tannin structure coupled with research on the relationship between structure and biological activity in models of atherosclerosis and urinary tract infections. Highlights of this research include development of mass spectrometry methods for tannin structure in cranberries, sorghum and pomegranate and relating structural characteristics to bioactivity in cell culture and *in vitro* studies.

PUBLICATIONS (Past 15 years)

1. **Reed JD**. 1995. Nutritional toxicology of tannins and related polyphenols in forage legumes. Invited Paper. Pharmacology/Toxicology Symposium on Toxic Legumes. *J Anim Sci* 73:1516-1528.
2. Folts J, Maalej N, Osman H, **Reed JD**. 1996. Grape juice but not orange juice inhibits in vivo platelet activity and thrombosis in stenosed canine coronary arteries. *Haemostasis* 95(3-4): 125.
3. Folts J, Osman H, Shanganayagam D, **Reed JD**. 1996. Daily feeding of grape juice inhibits platelet activity in monkeys. *Haemostasis* 95(3-4): 573.
4. Ko K, Malison JA, **Reed JD**. 1999. Effect of genistein on the growth and reproductive function of male and female yellow perch *Perca flavescens*. *Journal of the World Aquaculture Society* 30: 73-79.
5. Krueger CG, Dopke NC, Treichel PM, Folts J, **Reed JD**. 2000. Matrix-assisted laser desorption/ionization time-of-flight mass spectrometry of polygalloyl polyflavan-3-ols in grape seed extract. *J Agric Food Chem* 48: 1663-1667.
6. Keevil JG, Osman HE, **Reed JD**, Folts JD. 2000. Grape juice but not orange juice or grapefruit juice, inhibits human platelet aggregation. *J Nutr* 130: 53-56.
7. Hedqvist H, Mueller-Harvey I, **Reed JD**, Krueger CG, Murphy M. 2000. Characterization of tannins and in vitro protein digestibility of several *Lotus corniculatus* varieties. *Animal Feed Science and Technology* 87: 41-56.

8. **Reed JD**. 2001. Effects of Proanthocyanidins on the Digestion and Analysis of Fiber in Forages. *J Range Management*. 54: 466-473.
9. Porter ML, Krueger CG, Wiebe DA, Cunningham DG, **Reed JD**. 2001. Cranberry Proanthocyanidins Associate with Low-Density Lipoprotein and Inhibit *In Vitro* Cu^{2+}-Induced Oxidation. *J Sci Food Agric* 1306-1313.
10. **Reed JD**, Gebre-Mariam G, Robinson CJ, Hanson J, Odenyo A,Treichel PM. 2001. Acetyldiaminobutanoic acid, a Potential Lathyrogenic Amino Acid in Leaves of *Acacia angustissima*. *J Sci Food Agric* 81: 1481-1486.
11. **Reed JD**. 2002. Cranberry flavonoids, atherosclerosis and cardiovascular disease. Critical Reviews in *Food Science and Nutrition*, 42(Suppl.): 3301-316.
12. Shanmuganayagam D, Beahm MR, Osman HE, Krueger CG, **Reed JD**, Folts JD. 2002. Grape seed and grape skin extracts elicit a greater antiplatelet effect when used in combination than when used individually in dogs and humans. *J Nutrition.* 132: 3592-3598.
13. Krueger CG, Vestling MM, **Reed JD**. 2003. Matrix-assisted laser desorption/ionization time-of-flight mass spectrometry of heteropolyflavan-3-ols and glucosylated heteropolyflavans in sorghum [*Sorghum bicolor* (L.) Moench)]. *J Agri. Food Chem*. 53: 538-543.
14. Odenyo AA, Osuji PO, **Reed JD**, Smith AH, Mackie RI, McSweeny CS, Hanson J. 2003. Acacia angustissima: Its anti-nutrients constituents, toxicity and possible mechanisms to alleviate the toxicity – a short review. *Agroforestry Systems* 59: 141-147.
15. Krueger CG, Vestling MM, **Reed JD**. 2004. Matrix-Assisted Laser Desorption/Ionization Time-of-Flight Mass Spectrometry of Anthocyanin-Polyflavan-3-ol Oligomers in Cranberry Fruit [*Vaccinium macrocarpon*, Ait.] and Spray Dried Cranberry Juice. In: Red Wine Color: Revealing the Mysteries. ACS Symposium Series 886. A. L. Waterhouse and J. A Kenedy, eds. *American Chemical Society*, Washington, DC. pp. 232-246.
16. **Reed JD**, Krueger CG, Vestling MM. 2005. MALDI-TOF mass spectrometry of oligomeric food polyphenols. *Phytochem*. 66: 2248-2263.
17. Afaq F, Saleem M, Krueger CG, **Reed JD**, Mukhtar H. 2005. Anthocyanin and hydrolyzable tannin-rich pomegranate fruit extract modulates MAPK and NF-KB Pathways and inhibits skin tumorigenesis in CD-1 mice. *International Journal of Cancer* 113: 423-433.
18. Howell AB, **Reed JD**, Krueger CG, Winterbottom R, Cunningham DG, Leahy M. 2005. A-type cranberry proanthocyanidins and uropathogenic bacterial anti-adhesion activity. *Phytochem*. 66: 2281-2291.
19. Neto CC, Krueger CG, Lamoureaux TL, Vaisberg AJ,. Hurta RAR, Curtis S, Matchett MD, Yeung H, Sweeney MI, **Reed JD**. 2006. MALDI-TOF MS characterization of proanthocyanidins from cranberry fruit (*Vaccinium macrocarpon*) that inhibit tumor cell growth and matrix metalloproteinase expression *in vitro*. *J Sci Food Agric*. 86:18-25.
20. Lee CH, Krueger CG, **Reed JD**, Richards MP. 2006. Inhibition of hemoglobin-mediated lipid oxidation in washed fish muscle by cranberry components. *Food Chem*. 99: 591-599.
21. Larrain RE, Richards MP, Schaefer DM, Ji LL, **Reed JD**. 2007. Growth performance and muscle oxidation in rats fed increasing amounts of high-tannin sorghum. *J Anim Sci* 85:3276-3284.
22. Metzger BT, Barnes DM, **Reed JD**. 2007. Insoluble fraction of buckwheat (*Fagopyrum esculentum Moench*) protein possessing cholesterol-binding properties that reduce micell cholesterol solubility and upake by Cac0-2 cells. *J Agric Food Chem* 55:6032-6038.
23. Shanmuganayan D, Warner T, Krueger C, **Reed JD**, Folts J. 2007. Concord grape juice attenuates platelet aggregation, serum cholesterol and development of antheroma in hypercholesterolemic rabbits. *Atherosclerosis*. 190(1): 135-142.

24. Metzger BT, Barnes DM, **Reed JD**. 2008. Purple carrot (*Daucus carota L.*) polyacetylenes decrease lipopolysaccaride-induced expression of inflammatory proteins in macrophage and endothelial cells. *J Agric Food Chem* 56:3554-3560.
25. Larrain RE, Krueger CG, Richards MP, **Reed JD**. 2008. Color changes and lipid oxidation in pork products made from pigs fed with cranberry juice powder. *Journal of Muscle Foods* 19: 17-33.
26. Larraín RE, Schaefer DM, **Reed JD**. 2008. Finishing steers with diets based on corn, high-tannin sorghum or a mix of both: Color and lipid oxidation in beef. *Meat Science* 79: 656-665.
27. Larraín RE, Schaefer DM, **Reed JD**. 2008. Use of digital images to estimate CIE color coordinates of beef. *Food Research International* 41: 380-385.
28. Martin KR, Krueger CG, Rodriguez G, Dreher M, **Reed JD**. 2009. Development of a novel pomegranate standard and new method for the quantitative measurement of pomegranate polyphenols. *Journal of the Science of Food and Agriculture* 89: 157-162.