

# Shelf Life and Water Activity Consulting Services

***Neutec Group's team of Application Scientists can assist in improving product safety, quality, and shelf life through providing a better understanding of how these are impacted by water activity.***

## Consulting Services and Capabilities:

### Water Activity

- Water activity full day training course on theory, measurement, and application
- Training on water activity testing *best practices*
- Assistance in setting SOP's for water activity testing
- Prediction of water activity based on addition of humectants
- Investigate the causal factor for unexpected changes in water activity

### Product Stability and Characterization

- Predict moisture migration and its impact on product quality
- Predict temperature effect on water activity
- Establish ideal water activity release specifications
- Glass transition determination using water activity
- Interpretation of vapor sorption curves, both static and dynamic
- Determine kinetics of sorption and moisture permeability

### Product Shelf Life

- Training on *Shelf Life Simplified* paradigm
- Identification of most likely mode of failures for shelf life
- Shelf life experimental design including accelerated shelf life testing
- Chemical reaction rate prediction based on water activity and temperature
- Development of shelf life models
- Prediction of shelf life based on packaging permeability
- Determine package permeability needed to achieve desired shelf life

**Call us to discuss your Consulting Services requirements**



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## Who Can Benefit from our Consulting Services

### Manufacturers of:

- Snack/Nutritional Bars
- Snack Foods
- Pastries/Snack Cakes
- Powder Ingredients
- Nuts/Grains
- Pet Food
- Solid Dosage Pharmaceuticals
- Powder Supplements
- Packaging Providers

### Responsibility:

- Director of Research
- Director of Quality
- Research Manager
- Research Scientist
- Formulation Scientist
- Quality Manager
- Product Stability Specialist
- Production Manager

## Meet our Senior application scientist Dr. Brady Carter

- **PhD in Crop Science and Food Engineering**
- **Spent past 18+ years of career studying the theory, measurement, and applications of water activity**
- **Provided customer specific application support to thousands of water activity customers**
- **Provided over 500 webinars and seminars in over 20 different countries**
- **Written over 30 journal articles and over 50 application notes on water activity**
- **Contributed 2 chapters in the newest addition of Water Activity in Foods**
- **Pioneered a new method for determining glass transition using water activity**
- **Developed a shelf life model that uses both water activity and temperature**



*Dr. Carter was able to explain complex theories and calculations in a simple way and help us develop a practical action plan for our specific needs*  
*Erika Thorton, Clif Bar*