

NUTRIENT STABILITY OVER TIME IN MANUFACTURED FEEDS

Elizabeth Koutsos, PhD, Carrie Kuball, MS, Karen Wright, and Troy Tollefson, PhD*

Mazuri Exotic Animal Nutrition, Purina Mills Inc, St. Louis, MO, 63039, USA

Abstract

Understanding nutrient stability over time is of critical importance when determining the shelf life of animal feed. Trials examining nutrient stability are difficult to manage because of the long duration of trials, particularly if multiple environmental conditions are examined. It is well known that a variety of factors including temperature, humidity, light, and interactions between nutrients (e.g., oxidation of fat soluble vitamins by dietary lipid sources) may increase nutrient losses; however, many sources of nutrients are stabilized to reduce their losses over time (e.g., stabilized vitamin C, L-ascorbyl polyphosphate). Over the course of several years, nutrient stability of selected nutrients was examined in pelleted and extruded feeds, tablets, and prepared gels. These data will help inform nutrition managers and commercial feed manufacturers about appropriate shelf life of these products.