US sheep producers. The objective of this study was to determine the discriminating value of production traits so that measures of production may be used as indicators of reproductive performance. White faced rams consigned to the Wyoming ram test in 2008 (n = 33) and 2009 (n = 41) were tested for expression of sexual behavior while being evaluated for production performance. At the time of behavior testing, rams were 10 mo to 1 yr of age. In 2009, rams were fed using the Grow-Safe feeding system and feeding behavior was correlated to sexual behavior. Sexual performance was evaluated by exposing individual rams to 2 ewes in estrus for 30 min for a maximum of 3 times. Sexual behavior was categorized as: anticipatory (ano-genital sniffs, Flehmen response, fore-leg kicks and nudges) and consummatory (mount attempts, mounts and ejaculations) behavior. Rams exhibiting consummatory behavior were not re-tested. Rams were classified low (LP; n = 18), intermediate (IP; n = 23) or mounting (M; n = 33) according to the level of sexual behaviors exhibited. Rams classified as LP and IP exhibited total anticipatory behaviors ≤9 (mean = 4.8 ± 2.7) or ≥10 (mean = 23.7 ± 10.7), respectively, but did not exhibit mounting behavior. M rams mounted a ewe at least once (anticipatory mean = 43.5 ± 24.7; consummatory mean = 9.5 ± 7.0). For production traits, each ram was assigned an index ratio based on body weight gain and adjusted for wool characteristics. Data were analyzed using GLM and CORR procedures of SAS. Sexual behavior classification did not influence (P ≥ 0.5) index ratio, feed consumed per day, or number of feed intake episodes. Although anticipatory and consummatory behaviors (r = 0.48; P < 0.05) and test index ratio and feed consumption (r = 0.50; P < 0.05) were highly correlated, sexual behaviors were not significantly correlated with the index ratio (r = 0.08; P = 0.5). Measures of production performance do not appear to be reliable predictors of sexual behavior in yearling rams.

**Key Words:** risk management, price risk, revenue insurance

1017 Do hyphenated techniques permit the speciation of metal glycinate complexes? C. Ionescu1, V. Vaccina2, R. Lobinski3, S. Oguey1, and D. Bravo1,1Pancosma, Geneva, Switzerland, 2UT2A, Pau, France, 3CNRS, Pau, France.

Trace elements inclusion as feed additives is based on their metal content. This is mainly due to the unavailability of analytical methods differentiating trace element sources. The objective was to develop a method allowing specific determination of Zn, Cu, Mn and Fe glycinate complexes (BT) from sulfate (SU), citrate (CI) or histidinate (HI), preserving BT molecular integrity. A mixture of the 4 BT standards was used to optimize the analytical conditions. Five couplings were tested: size exclusion liquid chromatography with coupled to inductively coupled plasma spectrometry (SE HPLC-ICP-MS); hydrophilic interaction liquid chromatography (HILIC) with ICP-MS; Zwiterionic (ZIC)-HILIC with ICP-MS and capillary electrophoresis (CE) coupled either with electrospray mass spectrometry (ESI MS/MS) or ICP-MS. The SE HP LC-ICP-MS, HILIC-ICP-MS or ZIC-HILIC-ICP-MS coupling did not permit separation of BT from SU. Coupling of CE with ICP-MS gave the best results. All BT electropherograms contained a single peak. The 4 BT injected simultaneously were separated suggesting an efficient electrophoretic separation. The ICP-MS signal specificity was proven comparing experimental vs. theoretic trace elements isotopic ratios and peak absence in the blank. BT Cu was well separated from SU, CI and HI. BT Zn was well separated from SU and HI but not from CI. BT Mn was well separated from SU but there was an overlapping with CI and HI. BT Fe was well separated from SU or CI but not from HI. However, CI and HI were reconstructed complexes and not standards. BT molecular integrity was checked using CE ESI-MS(/MS) coupling. BT polymers were destroyed explaining the single peak in CE-ICP-MS electropherograms. BT sulfate ligand was lost but metal-glycine link was preserved. These results make capillary electrophoresis a promising tool for the quantification of BT. Providing validation of the method, the coupling CE-ICP-MS may allow the quantitative speciation of BT in feedstuffs.

**Key Words:** traceability, glycine complex, chelate

1018 Determination of metal glycinate in premixes using capillary electrophoresis coupled with an inductively coupled plasma mass spectrometry detector (CE-ICP-MS). C. Ionescu1, V. Vaccina2, S. Oguey1, R. Lobinski3, and D. Bravo1,1Pancosma, Geneva, Switzerland, 2UT2A, Pau, France, 3CNRS, Pau, France.

Previous results have shown that capillary electrophoresis coupled to inductively coupled plasma mass spectrometry (CE-ICP-MS) was a promising tool for metal glycinate (BT) speciation. The objective was to validate this method and to use it to determine BT concentration in mixes. The analytical conditions developed included an electrolyte made of 20 mM ammonium acetate (pH 7.4), a voltage of 30 kV and a hydrogen dynamic injection of 1 s. Specificity of the method was previously discussed. The analytical figures of merit of the approach were then determined. The calibration curve, made of 6 points, was linear (R² > 0.995). The repeatability (n = 10 for concentrations in the middle range of the calibration curve) was below 12%. In the absence of Certified Reference Material, accuracy was evaluated by analyzing quality control samples in the lower, medium and upper range of the calibration curve.