## Supplementary Table S1. Composition and nutrient levels of the basal diet (DM basis).

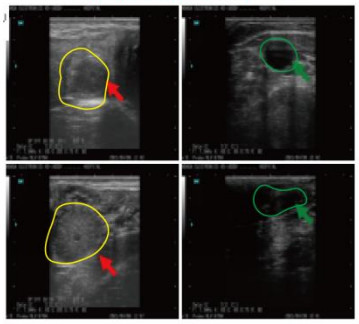
| Items | Content |
|---|---|
| **Ingredients** | % DM |
| Corn | 37.5 |
| Wheat bran | 6.38 |
| Soybean meal | 8.54 |
| Cottonseed meal | 9.58 |
| Rapeseed meal | 25.3 |
| 5% Premix for Beef Cowsx[1)] | 1.7 |
| Peanut hull powder | 8 |
| Gansu stone powder | 1.6 |
| Ca（$HCO_3$）$_2$ | 1.2 |
| NaCl | 1 |
| MgO | 0.2 |
| **Total** | 100 |
| Nutrient levels | |
| Feedlot $Ne_{mf}$(MJ/Kg) [2)] | 4.21 |
| Crude Protein (CP) | 16.81 |
| Calcium (Ca) | 0.99 |
| Phosphorus (P) | 0.72 |

1) The 5% premix provided per kg of diet: VA 11,500 IU, VD 3,250 IU, VE 58 IU, Fe 92 mg, Cu 13.5 mg, Zn 90 mg, Mn 90 mg.
2) NEmf: Net energy for feedlot maintenance.

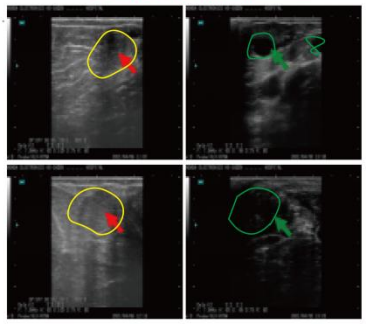
## Supplementary Figure S1 Ultrasound detection results

In the Control group of beef cows, a small number of large follicles could be detected in the ovaries, but there was no significant change in persistent corpus luteum; in the ACNL group, a small number of large follicles and a relatively higher number of primary follicles could be detected in the ovaries, with some improvement in persistent corpus luteum; in the ACNH group, a relatively higher number of large follicles could be detected in the ovaries, and there were signs of regression in persistent corpus luteum.

Control, Persistent corpus luteum, follicles



ACNL, Persistent corpus luteum, follicles



ACNH, Persistent corpus luteum, follicles

