turbidity was noted in each of the 13 tubes in the dilution series for *E. coli* ATCC® 25922™, *E. faecalis* ATCC® 51299™, *B. fragilis* ATCC® 25285™, *B. longum* ATCC® 15707™, *Cl. difficile* ATCC® 700057™, *F. canifelinum* ATCC® BAA-689™, *C. aerofaciens* ATCC® 29738™, *P. anaerobius* ATCC® 27337™, and *Lactobacillus brevis* ATCC® 14869™. No inhibition of the nine organisms tested (*E. coli, E. faecalis, B. fragilis, B. longum, C. difficile, F. canifelinum, C. aerofaciens P. anaerobius,* or *L. brevis*) was detected up to concentrations of at least 0.03125%, which suggests that inhibition does not occur at concentrations of up to 1% for both the AURA unextracted microalgae and extracted oil samples.

Key Words: Docosahexaenoic acid, Intestinal microbiota, Minimum inhibitory concentration

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PSXIII-1   Relationship between estrus expression detected by four methods and initial GnRH treatment with pregnancy per artificial insemination in suckler cows. A. Sanz[1], J. Rodríguez-Sánchez[1], J. Ferrer[1], J. Álvarez-Rodríguez[2], I. Casasús[1], *[1]CITA de Aragón-IA2, Zaragoza, Spain, [2]Universitat de Lleida, Lleida, Spain*

Twenty-nine cows with suckling calves were used to compare the effectiveness of four estrus detection methods, and to determine the relationship between estrus detection and initial GnRH treatment with pregnancy per artificial insemination. On day 115 postpartum, a 12-d Ov-Synch plus PRID ALPHA (device 1.55 g progesterone) protocol was used to synchronize cows for artificial insemination on day 14. Estrus detection methods were: i) visual observation (scoring signs of primary and secondary estrus behavior); ii) ESTROTECT® mount-activated scratch-off device; iii) ALPRO® activity meter; iv) plasma progesterone (Progesterone analysis indicated that all cows were in ovarian follicular phase on the insemination day, except for two cows that had lost the PRID and were not synchronized. Progesterone was taken as gold standard for synchronization. Estrus visual detection by scoring was the most effective method, with none false positive, whereas ESTROTECT® and ALPRO®showed 41 and 38% of false positives, respectively (P® were highly correlated. However, ALPRO® method did not obtain a good correlation with the other methods, possibly influenced by cow management in the routine farm labor. A negative effect of excessive body condition on pregnancy rate was observed. In summary, estrus visual observation, omission of initial GnRH and non-excessive reserves were associated to greater pregnancy rates in suckler cows.

Key Words: heat detection, GnRH, fertility

PSXIII-13   Artificial insemination by estrus detection or by fixed-time in superovulated beef cows. D. Forrest[1], J. Calloway[1], D. Riley[1], C. Steinhauser[2], D. Posey[1], C. Looney[2], *[1]Texas A&M University, College Station, TX, United States, [2]OvaGenix, Inc., College Station, TX, United States*

An analysis was conducted comparing embryo production following AI by estrus detection (ED) or fixed-time (FT) in superovulated beef cows. Overall, 1002 embryo collections from 407 donors from 2012–2016 were analyzed. Cows were assigned to one of four breed types (BT): American, Continental, English or Asian. Cows were stimulated by an Eazi-Breed™ CIDR®, (1.38 g P4, Zoetis. Parsippany, NJ) with injection (i.m.) of P4 (25 mg) and E2-17β (2.5 mg, Medshop, Longview, TX) on Day 0. On day 4, FSH (Follitropin V®, Vetoquinol, Brisbane, Australia or Pluset®, MOFA, Verona, WI) was injected (i.m.) AM and PM for 3.5 d at decreasing doses (128–332 mg). On day 6, an injection (i.m.) of $PGF_{2\alpha}$ (30 mg) or its analogue (375 mcg) was given AM and PM. On day 7 AM, CIDR was removed. Collections < January 20, 2015 were assigned to ED with a HeatWatch™ transmitter attached at CIDR removal. At onset of estrus, injection (i.m., 100 mcg) of GnRH (Cystorelin®, Merial, Duluth, GA) was followed by AI 12 and 24 hr later with 3–4 units of frozen-thawed semen. All other collections were assigned to FT. GnRH (i.m., 100 mcg) was injrcted 24 hr after CIDR removal with AI 12 and 24 hr after GnRH. Effects of treatment, breed type and season on embryo response were analyzed by chi-square. FT donors had a greater proportion (P<0.01) of viable embryos and a lower proportion of degenerate embryos. The proportion that failed to stimulate differed among BT but not by season. Proportions of viable embryos, degenerate embryos and unfertilized ova were affected (P<0.01) by BT and season. We conclude AI of supersiimulated cows using FT is superior to ED, and embryo quality is influenced by BT and season.

Item	Failed to flush	Non-responders	Viable embryos	UFO[1]	Degenerate embryos	Fertilized	Grade 1 embryos
Overall average[2]	0.1317	0.0369	0.5044	0.2065	0.2891	0.7935	0.7189
ED[3]	0.1259	0.0332	0.4806	0.2010	0.3184	0.7990	0.7099
FT[4]	0.1395	0.0419	0.5363	0.2140	0.2497	0.7860	0.7299
P-value	0.5268	0.4727	<0.0001	0.0652	<0.0001	0.0652	0.0689
Fall	0.1329	0.0411	0.4650	0.1879	0.3472	0.8121	0.7092
Spring	0.1286	0.0539	0.5194	0.2428	0.2378	0.7572	0.7096
Summer	0.1471	0.0196	0.5348	0.1955	0.2697	0.8045	0.7148
Winter	0.1203	0.0290	0.5131	0.2027	0.2842	0.7973	0.7407
P-value	0.8692	0.2346	<0.0001	<0.0001	<0.0001	<0.0001	0.1135
American	0.1354	0.0490	0.5112	0.2248	0.2639	0.7752	0.7330
Continental	0.2086	0.0647	0.4810	0.2176	0.3013	0.7824	0.7285
English	0.1560	0.0355	0.3952	0.3216	0.2832	0.6784	0.6841
Asian	0.0907	0.0160	0.5456	0.1429	0.3115	0.8571	0.7121
P-value	0.0037	0.0283	<0.0001	<0.0001	<0.0001	<0.0001	0.0525

[1]Unfertilized oocyte.
[2]Units are proportions.
[3]Artificial insemination by estrus detection.
[4]Fixed-time artificial insemination.