

Lessons Learned with Autofeeders



Preconference Producer Panel

Moderated by Ann Hoskins, Vita Plus calf products coordinator



Calf Summit 2014 • Growing Tomorrow's Herd

An Employee-Owned Company • startingstrong.vitaplus.com

Welcome to Calf Summit 2014

- Preview event presentations at
<http://www.vitaplus.com/calf-summit-2014-presentation-previews>
- Ask the Expert and win an iPad
 - Turn in your card at the registration table or
 - Email your question to abloom@vitaplus.com



Calf Summit 2014 • Growing Tomorrow's Herd

An Employee-Owned Company • startingstrong.vitaplus.com

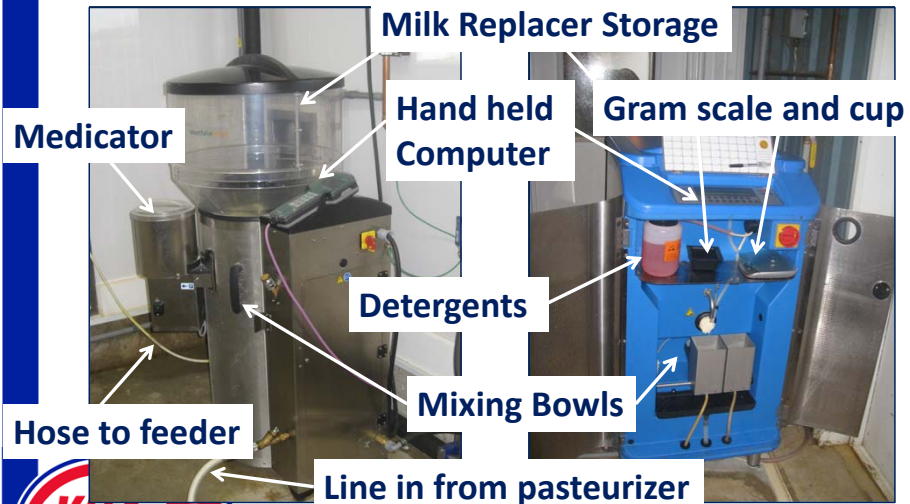
Autofeeder 101



Calf Summit 2014 • Growing Tomorrow's Herd

An Employee-Owned Company • startingstrong.vitaplus.com

Autofeeder Anatomy



Calf Summit 2014 • Growing Tomorrow's Herd

An Employee-Owned Company • startingstrong.vitaplus.com

Autofeeder Anatomy



Nipple



Feeding Stations



Calf Summit 2014 • Growing Tomorrow's Herd

An Employee-Owned Company • startingstrong.vitaplus.com

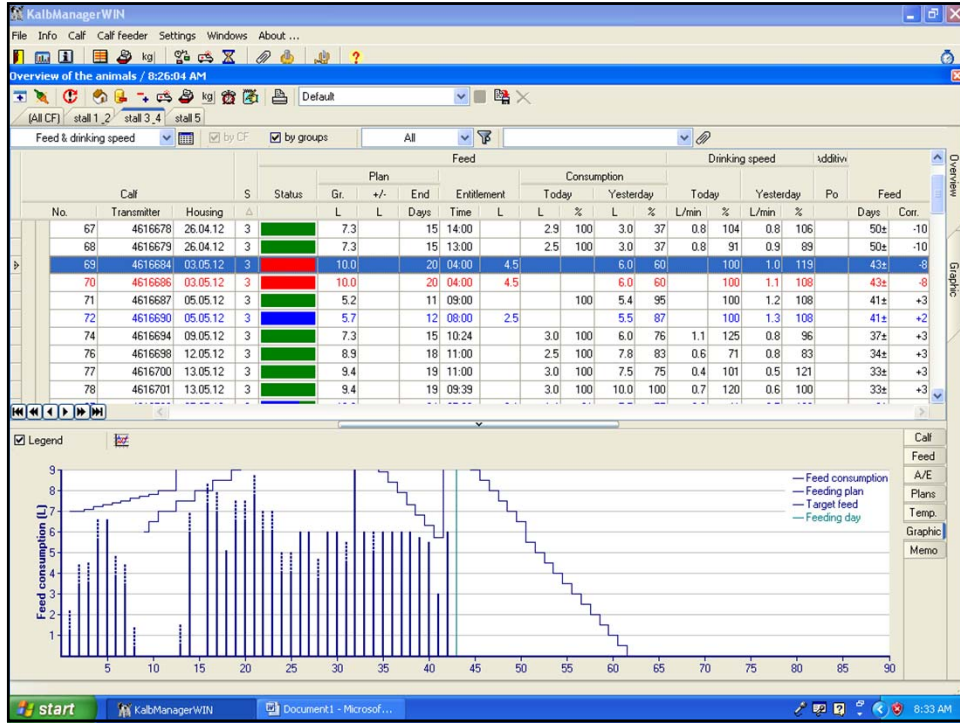
Autofeeder Dictionary

- **Feed Plans**
 - Concentration (g / L)
 - Volume (L / day)
 - Ramping (up & down)
 - By cumulative days



Calf Summit 2014 • Growing Tomorrow's Herd

An Employee-Owned Company • startingstrong.vitaplus.com



Autofeeder Dictionary

- Feed Plans
 - Medications / Supplements
 - Liquid
 - Dry



Calf Summit 2014 • Growing Tomorrow's Herd

An Employee-Owned Company • startingstrong.vitaplus.com

Autofeeder Dictionary

- **Settings**
 - Animal Entry
 - Entitlements
 - Credits
 - Limitations
 - Carryover
 - Calibration
 - Temperatures (Celsius)



Calf Summit 2014 • Growing Tomorrow's Herd

An Employee-Owned Company • startingstrong.vitaplus.com

Autofeeder Dictionary

- **Monitoring terms**
 - Visits
 - Drinking Speed
 - Breakoffs



Calf Summit 2014 • Growing Tomorrow's Herd

An Employee-Owned Company • startingstrong.vitaplus.com

Calf			S	Status	Plan			Consumption				Drinking speed			Po	Feed		
No.	Transmitter	Housing			Gr.	+/-	End	Entitlement	Today		Yesterday		Today	Yesterday			%	Days
67	4616678	26.04.12	3	Green	7.3		15 14:00	2.9	100	3.0	37	0.8	104	0.8	106	50e	-10	
68	4616679	26.04.12	3	Green	7.3		15 13:00	2.5	100	3.0	37	0.8	91	0.9	89	50e	-10	
69	4616684	03.05.12	3	Red	10.0		20 04:00			6.0	60		100	1.0	119	43e	-8	
70	4616686	03.05.12	3	Red	10.0		20 04:00			6.0	60		100	1.1	108	43e	-8	
71	4616687	05.05.12	3	Green	5.2		11 09:00		100	5.4	95		100	1.2	108	41e	+3	
72	4616690	05.05.12	3	Blue	5.7		12 08:00	2.5		5.5	87		100	1.3	108	41e	+2	
74	4616694	09.05.12	3	Green	7.3		15 10:24	3.0	100	6.0	76	1.1	125	0.8	96	37e	+3	
76	4616698	12.05.12	3	Green	8.9		18 11:00	2.5	100	7.6	83	0.6	71	0.8	83	34e	+3	
77	4616700	13.05.12	3	Green	9.4		19 11:00	3.0	100	7.5	75	0.4	101	0.5	121	33e	+3	
78	4616701	13.05.12	3	Green	9.4		19 09:39	3.0	100	10.0	100	0.7	120	0.6	100	33e	+3	
87	4616726	25.05.12	3	Blue	10.0		34 07:00	3.1	1.4	31	7.5	75	0.3	41	0.7	100	21	
5317	4616691	07.05.12	3	Green	6.3		13 16:00	2.8	100	6.8	100	0.9	107	0.9	110	39e	+3	

Autofeeder Dictionary

- **Cleaning**
 - Daily Clean
 - Circuit Clean



Calf Summit 2014 • Growing Tomorrow's Herd

An Employee-Owned Company • startingstrong.vitaplus.com

Keys to Success

- Well balanced nutrition
- Well thought out animal flow
- Great ventilation
- Data analysis
- Good Manager!!



Calf Summit 2014 • Growing Tomorrow's Herd

An Employee-Owned Company • startingstrong.vitaplus.com

Chad Carlson, Carlson Dairy LLP

- Pennock, Minnesota
- 1,500 milking and dry cows
- 1,000 acres farmed (700 owned)
- 25 employees
- Partnership with
 - Curtney & Louise Carlson (mom & dad)
 - Chad & Kindra Carlson
 - Carl & Kelli Carlson



Calf Summit 2014 • Growing Tomorrow's Herd

An Employee-Owned Company • startingstrong.vitaplus.com

Our mission

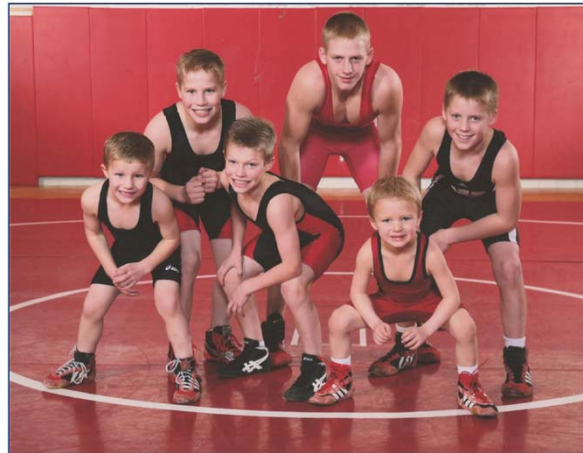
- To operate a high-producing, well-managed, innovative and sustainable family-owned dairy.



Calf Summit 2014 • Growing Tomorrow's Herd

An Employee-Owned Company • startingstrong.vitaplus.com

Lil' partners



Calf Summit 2014 • Growing Tomorrow's Herd

An Employee-Owned Company • startingstrong.vitaplus.com

Custom-raised heifers

- Started using custom raiser '01-'02
 - Current raiser started in '08
 - Have used total of 3 custom raisers in the past
- Sent to custom raiser at 4 months
- Paying flat rate \$/hd/d
- Custom raiser only raising for Carlson Dairy



Calf Summit 2014 • Growing Tomorrow's Herd

An Employee-Owned Company • startingstrong.vitaplus.com

Current performance statistics

- Age at 1st calving: 23 months
- Overall ADG: Not measured, but expect an overall 1.8 - 2 lb/d
- Age at 1st breeding: 13 months
 - All heifers bred by 15 months
- Cull rate: Very low
 - Custom heifer raiser will communicate about “poor doers” and decisions will be made on individual animals



Calf Summit 2014 • Growing Tomorrow's Herd

An Employee-Owned Company • startingstrong.vitaplus.com

Baby calf program: Two current Methods

Bucket feed



Autofeeder (Urban U-40)



Calf Summit 2014 • Growing Tomorrow's Herd

An Employee-Owned Company • startingstrong.vitaplus.com

Bucket fed

- 44 calves in individual pens
- Opposite side of Urban autofeeder



Calf Summit 2014 • Growing Tomorrow's Herd

An Employee-Owned Company • startingstrong.vitaplus.com

Autofeeder side

- Retrofitted a 44-stall coverall into group housing



Calf Summit 2014 • Growing Tomorrow's Herd

An Employee-Owned Company • startingstrong.vitaplus.com

Weaning timeline

- All calves start weaning at 42 d
- Completely weaned at 49 d
- Moved to another coverall building
 - For 4 additional weeks
 - Same starter pellet



Calf Summit 2014 • Growing Tomorrow's Herd

An Employee-Owned Company • startingstrong.vitaplus.com

Next move at 3 months

- Moved to open-front heifer barn
- Stay until 7 months old
- Introduced to TMR of chopped hay, haylage and dry beet pulp



Calf Summit 2014 • Growing Tomorrow's Herd

An Employee-Owned Company • startingstrong.vitaplus.com

Current building project

- 8 pens
(total 200 calves)
- 2 starter pens
- New feeders
“parallel feeding”
- 4 feeders (16 stations)



Calf Summit 2014 • Growing Tomorrow's Herd

An Employee-Owned Company • startingstrong.vitaplus.com

Reasons for new barn

- Accommodate autofeeders
- Improve ventilation
- Efficiencies
- Just outgrew the old facility!

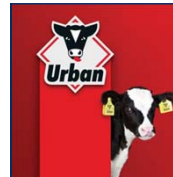


Calf Summit 2014 • Growing Tomorrow's Herd

An Employee-Owned Company • startingstrong.vitaplus.com

Urban U-40

- Feeds 50 calves
 - 25 at each station
- Self cleans
 - 2x/d
 - All the way to nipple
 - Alternate b/w detergent and acid
- Nipple changed 2x/d



Calf Summit 2014 • Growing Tomorrow's Herd

An Employee-Owned Company • startingstrong.vitaplus.com

Urban U-40



- 22% protein texturized starter
 - 4 weeks
 - Switch to complete pellet until 3-months-old



Calf Summit 2014 • Growing Tomorrow's Herd

An Employee-Owned Company • startingstrong.vitaplus.com

Key metrics

- Total consumption by calf
 - Goal >400 L by weaning
- Daily individual consumption & history
- Health events

Calf #	Dam	Twin	3+ Hrs	LOL Replacer	Other Dam	Manure	Nevel	Pulled	Treatments	Reason	Died	Reason	Total Intake	ADG	Breed	Pail/Auto
3001	468		X										1.37		Pail	
3002	6139												1.08		Pail	
3003	6235												1.51		Pail	
3004	72								Drax, Flu, Drax	Pneu			1.05		Pail	
3005	8079	X							Drax	Pneu			1.89		Pail	
3006	431												1.52		Pail	
3007	8172	X	X										1.00		Pail	
3008	8172	X											1.74		Pail	
3009	1080		X										1.41		Pail	
3010	9252												1.39		Pail	
3011	468							Y					1.01		Pail	



Calf Summit 2014 • Growing Tomorrow's Herd

An Employee-Owned Company • startingstrong.vitaplus.com

Weighing all calves

- At birth & 7-8 weeks
- Monitor ADG
- Goal: 2 lb/d
 - Actual 1.8-1.92 lb/d
- Future? Make culling decisions based on performance



Calf Summit 2014 • Growing Tomorrow's Herd

An Employee-Owned Company • startingstrong.vitaplus.com

Goals

- Hit ADG 2 lb/d
- Reduce treatments

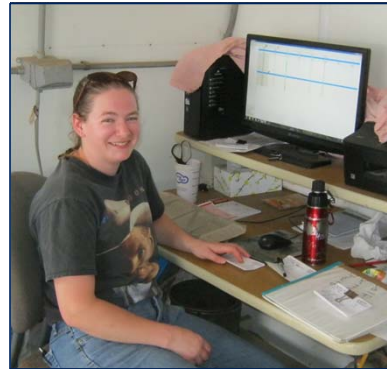


Calf Summit 2014 • Growing Tomorrow's Herd

An Employee-Owned Company • startingstrong.vitaplus.com

Lessons learned

- Do your research before choosing system
- Spread out feed and water
- Still need a good eye for calves
- Good calf person still key
- Less physical labor, but more intense management



Calf Summit 2014 • Growing Tomorrow's Herd

An Employee-Owned Company • startingstrong.vitaplus.com

Jeremy Heim, Heim's Hillcrest Dairy

- Algoma, Wisconsin
- Lloyd & Joyce farm with sons, Jeremy & Scott
- New barns built in '96
- 600 cows
- 1,300 acres
- New calf setup Nov. '12
 - Calves formerly custom-raised for 18 years



Calf Summit 2014 • Growing Tomorrow's Herd

An Employee-Owned Company • startingstrong.vitaplus.com

4 pens with total 72 calves

- 75-ft wide by 46-ft long



Calf Summit 2014 • Growing Tomorrow's Herd

An Employee-Owned Company • startingstrong.vitaplus.com



Calf Summit 2014 • Growing Tomorrow's Herd

An Employee-Owned Company • startingstrong.vitaplus.com



VITA PLUS *Calf Summit 2014 • Growing Tomorrow's Herd*
An Employee-Owned Company • startingstrong.vitaplus.com

Milk transfer tank

- Quick and easy to transfer milk
- Enclosed to keep milk clean, minimize spills
- Filters waste before entering pasteurizer
- Freezes when below zero



VITA PLUS *Calf Summit 2014 • Growing Tomorrow's Herd*
An Employee-Owned Company • startingstrong.vitaplus.com

Pasteurizer

- Flash pasteurizer (~1.5 gal/min)
- Holds 80 gal
- Cools milk to 40 degrees between pasteurizations
- No colostrum



Calf Summit 2014 • Growing Tomorrow's Herd

An Employee-Owned Company • startingstrong.vitaplus.com

Bulk tank

- 100-gal milk tank
- Milk is cooled to 39 degrees within 1 hour of pasteurization
- If consistently cooled at 40 degrees, PLC will be a 1 after 24 hours



Calf Summit 2014 • Growing Tomorrow's Herd

An Employee-Owned Company • startingstrong.vitaplus.com

Holm & Laue

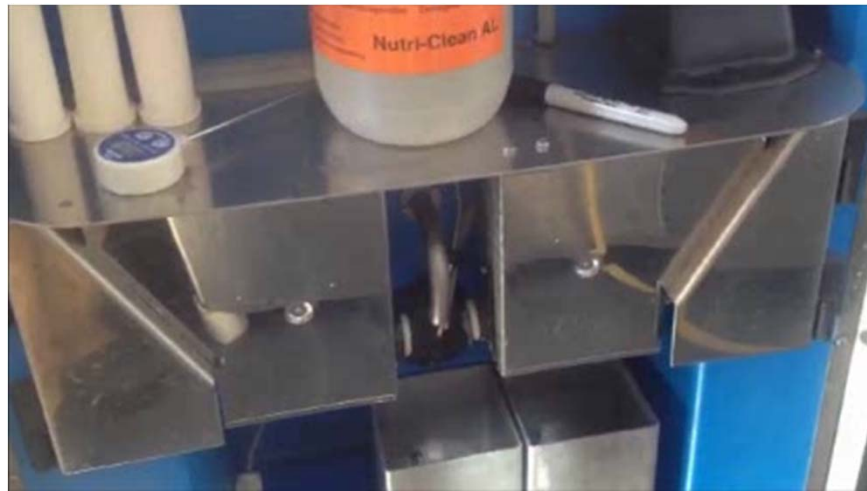


- Displays visit length, drinking speed and consumption
- Ability to include additives to milk for individual calves (electrolytes, antibodies, etc.)



Calf Summit 2014 • Growing Tomorrow's Herd

An Employee-Owned Company • startingstrong.vitaplus.com



Calf Summit 2014 • Growing Tomorrow's Herd

An Employee-Owned Company • startingstrong.vitaplus.com

Calf feedings

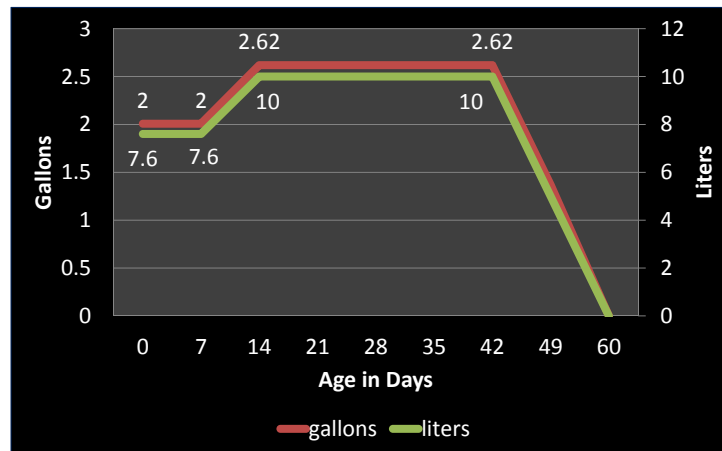
- 3 feeding stations
 - Station 1 feeds 16-18 calves
 - Station 2 feeds 36-38 older calves (pictured here)
 - Accessed from feeding room for easy washing and maintenance



Calf Summit 2014 • Growing Tomorrow's Herd

An Employee-Owned Company • startingstrong.vitaplus.com

Feeding chart



Calf Summit 2014 • Growing Tomorrow's Herd

An Employee-Owned Company • startingstrong.vitaplus.com

Autofeeder Cleaning

- Automatically cleans twice a day
 - Up to 6 inches from the nipple
- Feeding area scrubbed and foamed every morning
 - A.M. & P.M. sanitized with OxyMer



Calf Summit 2014 • Growing Tomorrow's Herd

An Employee-Owned Company • startingstrong.vitaplus.com

- Nipple is spray-washed after every feeding



Calf Summit 2014 • Growing Tomorrow's Herd

An Employee-Owned Company • startingstrong.vitaplus.com

Moving



Calf Summit 2014 • Growing Tomorrow's Herd

An Employee-Owned Company • startingstrong.vitaplus.com

Cleaning



Calf Summit 2014 • Growing Tomorrow's Herd

An Employee-Owned Company • startingstrong.vitaplus.com

Igloo changes

Old



New



Calf Summit 2014 • Growing Tomorrow's Herd

An Employee-Owned Company • startingstrong.vitaplus.com

Good and bad

- Easy to clean and sanitize
- Feed different ration by calf
- Change hoses every week (they clean the feed hoses poorly; PLC 400-20 at the nipple)
- 2-ft raise on igloos
- Computer program is still a work in progress



Calf Summit 2014 • Growing Tomorrow's Herd

An Employee-Owned Company • startingstrong.vitaplus.com

Three things to do differently

- All-in, all-out for each pen
- Barn instead of igloos
- Don't make changes to settings based on each consultant



Calf Summit 2014 • Growing Tomorrow's Herd

An Employee-Owned Company • startingstrong.vitaplus.com

Greatest successes

- >2 lb gain all the time
- Fast payback due to no heifer raiser bill
- Using whole milk lowered SCC on saleable milk



Calf Summit 2014 • Growing Tomorrow's Herd

An Employee-Owned Company • startingstrong.vitaplus.com

Justin Peterson, Creamery Creek Holsteins

- Bangor, Wisconsin
- Established early '10 milking 220 cows
- Today: 630 cows through multiple expansions
- '13 added heifer barn and autofeeder barn



Calf Summit 2014 • Growing Tomorrow's Herd

An Employee-Owned Company • startingstrong.vitaplus.com

Maternity

- 1 gal colostrum via esophageal tube within 2 hours of birth
 - Quality monitored with Brix refractometer
 - Navels dipped and vaccines
 - Currently retrofitting pasteurizer system for colostrum



Calf Summit 2014 • Growing Tomorrow's Herd

An Employee-Owned Company • startingstrong.vitaplus.com

Backgrounding

- Calves moved to superhutch for 2-3 d
- Then to autfeeder barn
- Blood samples:
serum total proteins
- Hair samples:
genomics



Calf Summit 2014 • Growing Tomorrow's Herd

An Employee-Owned Company • startingstrong.vitaplus.com

Autofeeder barn

- Moved from hutches to autofeeder barn Jan '14
 - Labor, bedding and starter cost saving
- 100-calf capacity
 - 4 pens (35 sq ft resting space per calf)
 - Headlocks
 - Insulated ceilings
 - 2 positive pressure ventilation tubes
 - In-floor heating in feeding platform
 - Adding curtains and chimneys



Calf Summit 2014 • Growing Tomorrow's Herd

An Employee-Owned Company • startingstrong.vitaplus.com



Calf Summit 2014 • Growing Tomorrow's Herd

An Employee-Owned Company • startingstrong.vitaplus.com

Autofeeders

- 2 DeLaval feeders with 2 feeding stations each (4 nipples)
 - Currently using handhelds for data capture and monitoring
- 4 diets based on combination of pasteurized milk and milk replacer (24:18 Calf Precision non-med)



Calf Summit 2014 • Growing Tomorrow's Herd

An Employee-Owned Company • startingstrong.vitaplus.com

Autofeeders

- Milk pasteurized 2x/d
 - 120-gal batch
- Immediately chilled through plate cooler to 40°
- Autofeeder reheats to feeding temperature



Calf Summit 2014 • Growing Tomorrow's Herd

An Employee-Owned Company • startingstrong.vitaplus.com

Feeding program

- First 7 days: ramped up to full allotment
- Remain at full allotment until weaning
- At 42 d milk ramped down to complete weaning
- Remain in barn until 3 months old to allow increased starter intake



Calf Summit 2014 • Growing Tomorrow's Herd

An Employee-Owned Company • startingstrong.vitaplus.com

Cleaning and quality control

- Specific parts set to clean 5x/d
- Circuit clean daily
- Hoses and nipples changed/washed daily
- Hose from nipple to machine replaced weekly
- Pasteurized milk tested for bacteria often



Calf Summit 2014 • Growing Tomorrow's Herd

An Employee-Owned Company • startingstrong.vitaplus.com

Management in autofeeder barn

- 1 dedicated employee
- Bunks for younger calves inside pen
 - Moved outside 3 weeks
- Bedding changed as needed
 - Weekly for older calves



Calf Summit 2014 • Growing Tomorrow's Herd

An Employee-Owned Company • startingstrong.vitaplus.com

Management in autofeeder barn

- Average weight gains monitored with weight tape
 - Moving to a scale
- Fly control done by pest control company
- Management software to be implemented soon



Calf Summit 2014 • Growing Tomorrow's Herd

An Employee-Owned Company • startingstrong.vitaplus.com

Transition calves

- Moved to heifer barn at 3 months in groups of 6-7
 - Fed TMR right away
 - with starter topdress 2 weeks
- Go to custom heifer grower after 2 months



Calf Summit 2014 • Growing Tomorrow's Herd

An Employee-Owned Company • startingstrong.vitaplus.com

Genomics

- Culled at feeder weight based on net merit <250 determined by genomic testing
- Changing to breeding bottom 20% to beef
- Dairy needs 70% of replacements born



Calf Summit 2014 • Growing Tomorrow's Herd

An Employee-Owned Company • startingstrong.vitaplus.com

Three things to do differently

- Build bigger barn with individual starter pens
- Windows in the milk house for calf monitoring
- Supplemental summer ventilation



Calf Summit 2014 • Growing Tomorrow's Herd

An Employee-Owned Company • startingstrong.vitaplus.com

Three goals for the calf barn

- Decrease cost/hd/d
- Decrease age at weaning by 1 week
- Develop a calf that is ready to freshen 21.8 - 22 months



Calf Summit 2014 • Growing Tomorrow's Herd

An Employee-Owned Company • startingstrong.vitaplus.com

Welcome to Calf Summit!



Stoney Creek Inn
Onalaska, Wisconsin



Calf Summit 2014 • Growing Tomorrow's Herd

An Employee-Owned Company • startingstrong.vitaplus.com