## SHEEP FIELD DAY & RAM LAMB SALE

## Friday, September 20, 2019

Virginia Tech Southwest Agricultural Research and Extension Center 12326 VPI Farm Road

Glade Spring, VA

Sale Day Phones: (276) 698-6079 or (540) 230-2680 Prior to Sale Day Call: (276) 944-2200 or (540) 231-9159

Ram Videos will be available at

https://www.apsc.vt.edu/extensionandoutreach/Sheep-Extension/sheep-

programs/swarec-ram-test.html

### **Schedule**

12:00 Noon – Registration & Lunch 1:00 PM - Educational Field Day 3:00 PM - Ram Sale

# Selling 47 forage-tested rams evaluated for growth and parasite resistance

#### 1:00 PM Field Day Program:

Update from American Lamb Board – Meg Kitzan, South Dakota
Our Experiences with Test Rams - Jim Malooley, Tennessee
Selection for Parasite Resistance Research Update – Andrew Weaver, WVU
Pam Evaluation for Growth & Parasite Resistance — Dr. Scott Greiner & Lee

Ram Evaluation for Growth & Parasite Resistance - Dr. Scott Greiner & Lee Wright, Virginia Tech

#### **Terms and Conditions**

Guarantee: All rams are being sold as guaranteed breeders if properly managed. If a ram fails to

perform satisfactorily, notification must be made to the consignor promptly and not later than May 1, 2020. Consignors are not liable for failure to have a lamb crop. This guarantee is between the buyer and seller only, and no other parties assume any

liability, legal or otherwise, expressed or implied.

Terms: Cash (check). Absentee bids may be left with the contacts listed above.

Risk: All animals at purchaser's risk as soon as sold.

Health: Proper health certificates for transport will be furnished to the buyer upon request.

Registration: Registration papers will be transferred to purchaser at no charge.



www.ext.vt.edu

Online bidding available at:

livestockbuyer.com

LIVESTOCKBUYER.COM

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#### **Breeding Season Management**

Scott P. Greiner, Extension Animal Scientist- Sheep, Virginia Tech

A diligent amount of time spent studying performance information, pedigrees and other pertinent information is warranted as ram selection is the most important tool for making genetic progress in the flock. Of equal importance is the care and management of the newly acquired ram. Proper management and nutrition are essential for the ram to perform satisfactorily during the breeding season. With ram lambs, management prior, during, and after the first breeding season is particularly important.

#### Ram Lamb Management

Young rams should be managed to be in moderate body condition prior to the breeding season (not excessively fat or thin), to provide adequate reserves of energy for use during the breeding season. The rams should continue to receive grain supplementation at a rate of 2% of their bodyweight daily, along with an abundance of high quality forage. Provide adequate clean water, and a high selenium mineral formulated for sheep free-choice. A facility for the newly acquired ram that allows for ample exercise will help create rams that are physically fit for the breeding season. The facility should allow the rams to remain cool during hot days, so potential fertility problem due to heat stress can be avoided. It is advisable not to commingle a newly purchased ram lamb with older, mature rams. Particular care should be taken if rams from different sources need to be commingled, and all commingling should take place prior to the breeding season.

Many factors influence the breeding capacity of rams, including age, breed, nutrition, management, and environment. As a general guideline, ram lambs are capable of breeding 15 to 25 ewes during their first breeding season. Ram lambs should be observed closely to monitor their breeding behavior and libido to ensure they are servicing and settling ewes. The use of a marking harness, rotating colors every 17 days, is an excellent management tool for this purpose. The breeding season should be kept to a maximum of 60 days for young rams. This will prevent over-use, severe weight loss and reduced libido. Severe weight loss may impair future growth and development of the young ram, and reduce his lifetime usefulness. When practical, supplementing ram lambs with grain during the breeding season will reduce excessive weight loss. Rams used together in multiple-sire breeding pastures should be of similar age and size. Ram lambs cannot compete with mature rams in the same breeding pasture. A sound management practice is to rotate rams among different breeding pastures every 17 days. This practice decreases the breeding pressure on a single ram.

#### Preparing the Ewe Flock for the Breeding Season

Some advance planning and simple management practices will assist in having a successful breeding season. Vaccination of the ewe flock for Campylobacter (vibrio) and Chlamydia are important for abortion disease control. For ewe lambs and ewes not previously vaccinated, these products typically require an initial injection prior to the breeding season followed by a second vaccination during gestation. In subsequent years, a single booster vaccination is required. Follow product label directions when administering any vaccine. A month prior to the breeding season is also an opportune time to trim and inspect feet on the ewe flock, and perform preventative foot care. This is also a good time to make final culling decisions, and sell poor producing and thin ewes.

Flushing is the practice of increasing energy intake, and therefore body condition, during the 10-14 days prior to breeding. This practice has been shown to be effective in increasing ovulation rates, and thereby increasing lambing percentage by 10-20%. The response to flushing is affected by several factors, including the body condition of the ewe. Ewes that are in poor body condition will respond most favorably to the increase in energy, whereas fat ewes will show little if any response. Flushing can be accomplished by moving ewes to high quality pastures, or through providing .75 to 1.25 lb. corn or barley per head per day from 2 weeks pre-breeding through 4 weeks into the breeding season. Provide a high-selenium, sheep mineral free choice.

Like rams, ewes are also prone to heat stress during early breeding seasons. Prolonged exposure to high temperatures can have an effect on ewe fertility and embryo survival. To help reduce these embryo losses and resulting decrease in lamb crop, minimize handling during the heat of the day and allow the flock access to a cool, shaded area.

#### Ram Management After the Breeding Season

Young rams require a relatively high plane of nutrition following the breeding season to replenish body condition and meet demands for continued growth. Body condition and projected mature size of the ram will determine his nutrient requirements during the months following the breeding season. Rams should be kept away from ewes in an isolated facility or pasture after the breeding season. In the winter months, provide cover from extreme weather that may cause frostbite to the scrotum resulting in decreased fertility.

All stud rams should receive breeding soundness exams (BSE) to assure fertility on an annual basis. Assess the ram battery in early summer, so that new rams can be acquired in a timely fashion for the next breeding season.

#### **About the Rams and the Data**

#### **Nutrition and Management**

One hundred fourteen rams born January 15 through March 15, 2019 were delivered to the Southwest Virginia Agricultural Research and Extension Center at Glade Spring, VA on May 28. Rams originated from 28 flocks located in VA, GA, KY, MD, MO, OH, TN, and WV. At delivery, rams were weighed, vaccinated for clostridial diseases and soremouth, and scrotal measurements taken. Additionally, rams were dewormed with three anthelmentics (ivermectin, albendazole, levamisole), and fecal egg count (FEC) samples collected to determine presence of nematode parasites. A 21-day adjustment period was used to acclimate rams. A subsequent FEC was taken 12 days following delivery to confirm acceptable reduction in parasite load. The primary goal of the pre-test period was to ensure all rams had very low parasite loads at the initiation of the test.

Following the three week adjustment period, rams were allocated to forage paddocks based on age and weight, and the structured performance test initiated. At the start of the test period all rams received an oral dose of 5,000 3rd stage H. contortus larvae standardized for body weight. Body weights, FEC, and FAMACHA scores were taken at the beginning of the test period, at 14 day intervals during the test. During the test, rams had continuous access to fescue paddocks, and receive supplemental concentrate feed at rate of ~3% body weight daily (76% TDN, 18% CP). FEC and FAMACHA were utilized to determine rams requiring deworming treatment. Rams requiring deworming have been eliminated from the sale. Rams were scanned via ultrasound at the conclusion of the test to estimate carcass merit/body composition.

All rams were dewormed at the conclusion of the test (August 27). All rams selling have passed a breeding soundness examination conducted by veterinarians from the VA-MD Regional College of Veterinary Medicine. The breeding soundness exam includes measurement of scrotal circumference, examination of the reproductive tract, and semen evaluation.

#### **Performance Data**

%, Breed: All rams are registered/recorded with their respective breed association. For breeds with open

flock books or appendix registries, breed percentage (%) is indicated. PB = purebred, 75% =

three-quarter-blood, 50% = half-blood, etc.

Birth Type: S = single, TW = twin, TR = triplet, QD = quadruplet

<u>Codon 171:</u> Genotype associated with genetic resistance to scrapie. Presence of at least one *R* is associated

with scrapie resistance.

<u>Final Wt.:</u> Ram weight at the conclusion of the 70-day test on August 27. Average daily gain in pounds per day for the entire 70-day test.

Final WDA: Weight-Per-Day-of-Age at the conclusion of the test. Calculated by dividing final weight by

days of age. Indicative of the ram's growth since birth, and includes growth prior to arriving at

the station (weaning growth) as well as gain on test.

ADG and Expresses ADG or WDA for an individual ram as a percentage of the average

WDA Ratios: performance for all rams in the group. A ratio of 100 is average, 110 would be 10% above

average, and 90 is 10% below average.

Scrotal Cir.: Actual scrotal circumference in cm measured during breeding soundness exam.

Adj. Fat Th.: Ultrasound fat thickness depth measurement (mm) taken between the 12<sup>th</sup> and 13<sup>th</sup> ribs.

Adjusted to a constant live weight of 100 pounds. 2.5 mm = 0.10 in.

Adj. Loin Depth: Ultrasound loin muscle depth measurement (mm) taken between the 12<sup>th</sup> and 13<sup>th</sup> ribs.

Adjusted to a constant live weight of 100 pounds. 18 mm depth = approximately 1.25 sq. in.

Mean Adj. FEC: Average of four adjusted fecal egg counts taken post-infection.

Test Group Avg.: Averages for all rams that concluded the test. Includes both sale rams and those not selling.

#### Sale Order

Sale order will be available sale day. Sale order will be based on combination of traits measured including growth and parasite resistance.

#### 2019 Southwest AREC Ram Test Sale Friday, September 20, 2019 3:00 PM Virginia Tech Southwest AREC, Glade Spring, VA Sale Day Phones (276) 698-6079 or (540) 230-2680

							Codon		8/27/19			8/27/19			100 lb	100 lb.	Mean
Test	Flock				Birth	Birth	171	Pasture	70-day	Test	ADG	70-day	WDA	Scrotal	Adj.	Adj.	Adj.
ID	ID	Breed	%	Sire	Date	Туре	Genotype	Group	Wt.	ADG	Ratio	WDA	Ratio	Cir.	Fat Th., mm	Loin Depth, mm	FEC
D 1 DI	I F Ob-	.'- 0 Ml-	Flatal	45404 DI			VA 04040	070.000	0700								
-	ssed Farm; Chr	-		•				276-698-		0.44	00	0.40	00	00.0	0.0	00.0	004
19-002 19-005	BBF 9114 BBF 9158	Katahdin Katahdin	PB PB	USD 15124 NWT 6063	2/3/2019 2/17/2019	TW TW	RR RR	1	100 92	0.41 0.48	92 106	0.49 0.48	86 85	28.0 30.0	2.6 2.5	29.2	291
	K Farm; Michael							5 4274	92	0.46	106	0.46	65	30.0	2.5		0
19-008	CED 1923	Katahdin	PB	CED 1537	2/22/2019	TW	QR	<b>3-4274</b> 1	98	0.47	105	0.53	93	31.0	2.4	24.7	417
	ily Farm; Eric V							'	30	0.47	100	0.55	93	31.0	2.4	24.1	417
19-011	352	Katahdin	PB	ECF 153	3/3/2019	S	RR	3	141	0.61	135	0.80	140	30.0	1.5	20.8	473
19-013	355	Katahdin	75%	SJF 0763	3/4/2019	TW	RR	1	95	0.39	86	0.54	95	31.0	3.5	20.7	32
	Joe & Sue Huff							•		0.00		0.0 .		0.10	0.0		
19-016	SJF 919	Katahdin	PB	BUL 14103	2/2/2019	TW	RR	3	135	0.65	144	0.65	115	34.0	2.0	21.9	963
19-018	SJF 926	Katahdin	PB	BUL 14103	2/7/2019	TR	QR	2	114	0.53	117	0.56	99	33.0	2.7	23.4	32
	r Farm; Roxanr							632; 229-									
19-021	NWT 19002	Katahdin	PB	WRI 17137	1/19/2019	S	RR	3	148	0.46	103	0.67	118	36.0	5.3	26.7	32
19-024	NWT 19089	Katahdin	PB	WRI 17137	2/1/2019	TR	RR	3	145	0.59	130	0.70	123	37.0			80
19-025	NWT 19101	Katahdin	PB	JAG 791	2/3/2019	TW	RR	3	149	0.54	120	0.73	128	35.5			312
Daffodil Acr	es; Debbie Halu	ıka; 4925 Co	oppage	Rd.; Hahira, G	A 31632; 22	9-506-1	434										
19-026	DHA 0038	Katahdin	PB	USD 17166	2/2/2019	TW	RR	2	118	0.53	117	0.57	101	31.0	3.1	26.2	145
19-028	DHA 0049	Katahdin	PB	USD 17166	2/12/2019	S	RR	1	103	0.52	116	0.52	92	33.5	3.6	22.6	32
	ng Farm; Lee 8	Cindy Wri	_		n., Glade Sp	_		76-698-60									
19-030	WRI 19013	Katahdin	PB	WRI 17039	1/31/2019	TW	QR	2	111	0.46	101	0.53	94	31.0	3.7	21.4	652
19-032	WRI 19065	Katahdin	PB	NWT 18012	2/8/2019	S	RR	2	119	0.63	140	0.59	104	33.0	2.5	25.5	218
	m; Shane & She				•	-	-										
19-036	0061	Katahdin	PB	OW 307	2/5/2019	TW	RR	1	100	0.51	113	0.49	86	32.0	5.0	24.6	11
19-037	0071	Katahdin	PB	OW 307	2/7/2019	TW	RR	2	109	0.53	117	0.54	95	33.0	1.7	21.9	226
-	Katahdins; Ja	-			•			-		0.05	444	0.75	400	05.0	0.7	04.0	4.47
19-040 19-041	JAG 965 JAG 970	Katahdin Katahdin	PB PB	HCK 6093 HCK 6093	2/14/2019	TW TW	RR RR	3 1	146 101	0.65	144 100	0.75 0.53	132 94	35.0 30.0	2.7 3.0	24.6 22.1	147
	ete Odle; 343 C				2/19/2019		KK	ı	101	0.45	100	0.55	94	30.0	3.0	22.1	374
19-044	OW 365	Katahdin	u., NICK PB	TAF 543	1/16/2019	TW	RR	3	152	0.58	128	0.68	120	33.0		27.7	0
19-046	OW 368	Katahdin	PB	TAF 543	1/20/2019	TW	RR	3	152	0.48	106	0.69	122	32.0	1.9	23.3	139
	m; Brad Mullins								102	0.40	100	0.00	122	02.0	1.0	20.0	100
19-049	MMM 1902	Katahdin	PB	JCF 0066	1/30/2019	TW	RR	3	127	0.59	130	0.61	107	31.0	4.9	25.0	217
19-051	MMM 1904	Katahdin	PB	JCF 0066	1/28/2019	TW	QR	3	141	0.54	119	0.67	118	33.0	2.5	24.9	433
	Farm; Gilmer							3-835-890							-		
19-052	MTF 01	Katahdin	PB	SJF 0766	2/28/2019	TW	RR	2	117	0.49	108	0.65	114	31.0	2.9	25.8	253
Trickle Cree	k Farm; Leroy [	Dennison; 1	442 Bu	zzard Roost Ro	l., Shelbyvil	le, KY	40065; 502-	-643-5202	2								
19-055	JLD 368	Katahdin	PB	BCG 942-21	2/25/2019	TW	RR	2	105	0.46	103	0.57	101	31.5	2.8	27.6	97
Triple L Fari	ms; Larry & Lisa	a Weeks; 43	0 Bayn		sboro, VA 2	2980; 5	40-480-814	1									
19-061	TLF 1903	Katahdin	PB	WRI 17063	2/22/2019	TW	QR	2	102	0.42	94	0.55	96	30.0	4.3	26.1	32
19-062	TLF 1907	Katahdin	PB	FAH 253	2/24/2019	TW	QR	3	120	0.49	109	0.65	115	31.5	1.4	23.4	426
19-063	TLF 1935	Katahdin	PB	BCD 761	2/26/2019	TW	QR	2	113	0.49	108	0.62	109	33.0	4.0	21.2	11

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Test ID	Flock ID	Breed	%	Sire	Birth Date	Birth Type	Codon 171 Genotype	Pasture Group	8/27/19 70-day Wt.	Test ADG	ADG Ratio	8/27/19 70-day WDA	WDA Ratio	Scrotal Cir.	100 lb Adj. Fat Th., mm	100 lb. Adj. Loin Depth, mm	Mean Adj. FEC
Big H Livest	ock; Sally Has	h; 518 Old F	Prater F	Rd., Marion, VA	24354; 276-	780-48	35										
19-066	BHL 1903	Katahdin	PB	OW 210	1/7/2019	TW	RR	3	120	0.41	90	0.52	91	31.0	3.2	21.5	224
19-069	BHL 1911	Katahdin	PB	OW 305	1/19/2019	S	RR	2	108	0.43	95	0.49	86	31.0			11
-	•	roffitt; 9840	•	ton Rd., Afton, T	TN 37616; 4	23-234 <sup>.</sup>	-2852										
19-070	KKP 2193	Katahdin	PB	OW 310	2/19/2019	TW	RR	2	119	0.52	116	0.63	111	33.0			137
19-071	KKP 2186	Katahdin	PB	OW 310	2/15/2019	TW	RR	2	110	0.48	106	0.57	100	30.0	2.0	21.8	256
_				esville Rd., Scie			-										
19-076	1910	Katahdin	PB	POY 287	3/15/2019	S	RR	3	128	0.46	101	0.78	137	29.0		20.9	511
	•	_	•	2591 Triplett Tu													
19-078	1903	Katahdin	PB	WHK 1760	3/2/2019	TW	RR	2	104	0.46	101	0.58	103	31.0	2.9	22.1	121
				214 Lakestone		_											
19-083	RNR 1912	Katahdin	PB	USD 3131	2/23/2019	S	QR	2	115	0.51	113	0.62	109	29.0			206
19-085	RNR 1923	Katahdin	PB	USD 3131	2/20/2019	TW	QQ	1	91	0.44	98	0.48	85	31.0	2.9	23.2	318
		-	-	PO Box 3, Alpir	•												
19-087	WFF 19020	Katahdin	PB	WFF 16045	1/22/2019	TW	RR	3	135	0.59	130	0.62	109	34.0	3.0	20.8	305
	Farm; David S.	•		•	•	•											
19-091	BCH 980	Katahdin	PB	BCE 933-22	1/29/2019	TW	RR	2	126	0.66	147	0.60	105	34.0	3.9	21.8	22
19-093	BCH 989	Katahdin	PB	BCE 933-22	2/6/2019	TW	RR	2	129	0.71	159	0.64	112	33.0	2.8	20.8	194
	-			er; 13305 Flourr	-		_	MO 64097									
19-094	FAH 19-027	Katahdin	PB	FAH 16-143	2/7/2019	TW	QR	3	136	0.60	133	0.67	119	31.0			39
19-095	FAH 19-105	Katahdin	PB	CMG 16-103	2/14/2019	TW	QR	3	121	0.47	105	0.62	110	31.5	3.7	25.2	275
19-097	FAH 19-138	Katahdin	PB	FAH 16-143	2/18/2019	TR	RR	3	131	0.60	133	0.69	121	30.5			441
	•	•		d Rd., Westmins	•			<u>)</u>									
19-099	0301	Cheviot	PB	MH 9635	2/28/2019	TW	QQ	1	94	0.36	81	0.52	92	30.0	3.5	24.8	824
				e; 1194 Evansda													
19-101	9017	Texel	PB	Elms. Assassin	1/27/2019	TW	RR	2	107	0.39	87	0.50	89	31.0	1.8	26.1	59
19-102	9042	Texel	PB	PP 661	3/3/2019	S	QR	2	102	0.37	82	0.58	101	28.0	2.6	25.6	887
·	_		-	2578 Hall Shop	•		-										
19-109	THF 1905	Katahdin	PB	TLF 1420	1/31/2019	TW	RR	3	144	0.51	113	0.69	122	34.0	3.4	25.8	402
				e Eye Ln., Delan													
19-112	GKC 1812	Katahdin	PB	GKC 1702	1/16/2019	TW	RR	3	141	0.46	103	0.63	111	34.0	3.8		36
19-114	GKC 1918	Katahdin	PB	JAG 772	1/28/2019	TW	RR	2	100	0.41	90	0.47	83	33.0	4.0	22.9	0
111 Rams Te	ested Avg.								111	0.45	100	0.57	100	31.6	3.1	23.7	404

#### 2019 Southwest AREC Ram Test Sale NSIP EBVs

## Katahdin

ID		EBV	EBV	EBV	EBV	EBV	EBV	EBV	EBV	EBV
עו ן	ID	BWT	MWWT	WWT	PWWT	WFEC	PFEC	NLB%	NLW%	USA HAIR
Beyond Bles	sed Farm; Cl	nris & Mand	y Fletcher; 1	15424 Bless	ed Ln., Abin	gdon, VA 24	210; 276-698-876	8		
19-002	BBF 9114	+0.3	+0.6	+2.3	+3.4	-17	-53	+5	+7	104.4
19-005	BBF 9158	+0.4	+0.6	+2.7	+4.3	-11	-43	+9	+9	105.4
<b>Hound River</b>	Farm; Roxar	ne & Milled	ge Newton;	5550 Skippe	er Bridge Ro	I., Hahira, G	A 31632; 229-740-	0017		
19-021	NWT 19002	+0.1	+0.8	+2.5	+4.7	-3	-7	+14	+14	107.7
19-024	NWT 19089	+0.2	+0.6	+3.5	+5.8	-7	+23	+8	+10	105.8
19-025	NWT 19101	+0.2	+0.0	+1.6	+2.6	-81	-92	+0	3	102.4
Rolling Sprii	ng Farm; Lee	& Cindy Wr	ight; 12333	Deerfield Ln	., Glade Spr	ing, VA 243	40; 276-698-6079			
19-030	WRI 19013	+0.0	+0.6	+3.3	+6.6	-17	-27	+7	+8	105.1
19-032	WRI 19065	+0.3	+1.2	+3.2	+5.7	-67	-80	+16	+18	110.0
Triple L Farr	ns; Larry & Li	sa Weeks; 4	30 Baynes I	Rd., Waynes	boro, VA 22	980; 540-480	0-8141			
19-061	TLF 1903	+0.1	+0.3	+2.2	+4.0	+22	+2	+3	+5	103.2
19-062	TLF 1907	+0.3	-0.2	+2.6	+4.0	-35	-49	-0	+8	103.4
19-063	TLF 1935	+0.5	+1.1	+2.6	+4.1	-3	-60	+2	+8	106.3
R&R Katahd	in Farm; Ranc	lal & Rebec	ca Beal; 214	Lakestone	Ln., Welling	ton, KY 403	87; 606-768-3847			
19-083	RNR 1912	+0.1	+0.8	+0.6	+0.8	-2	-21	+0	+3	103.0
19-085	RNR 1923	+0.0	+0.2	+0.2	+0.3	-1	-21	+7	+9	104.0
West Fork F	arms; Robert	& Kimberly	Walker; PO	Box 3, Alpin	ne, TN 38543	; 931-510-13	322			
19-087	WFF 19020	+0.1	+0.6	+1.6	+4.0	+22	+34	+7	+2	102.6
Birch Cove I	arm; David S	. Coplen; 47	02 Birch Co	ve Dr., Fulto	on, MO 6525	1; 573-544-5	925			
19-091	BCH 980	+0.5	+0.5	+3.0	+5.3	+65	+60	+15	+19	109.1
19-093	BCH 989	+0.4	+0.4	+3.4	+6.2	-37	-54	+12	+16	107.7
Fahrmeier K	atahdins; Lyn	n & Donna I	ahrmeier; 1	3305 Flourr	noy School F	Rd., Wellingt	on, MO 64097; 81	6-517-5049		
19-094	FAH 19-027	+0.2	+0.3	+1.8	+3.1	-26	-51	+16	+11	104.9
19-095	FAH 19-105	+0.1	+1.7	+2.0	+3.8	-22	-37	+5	+13	109.6
19-097	FAH 19-138	+0.3	+1.1	+1.0	+1.9	+15	-16	-1	+12	107.7
Katahdin bre	ed avg.	+0.2	+0.3	+1.2	+2.2	-32	-51	+7.5	+9.1	104.7

#### Texel

ID	ID	BWT	WWT	PWWT	PEMD	PFAT	Carcass Plus	
Vest Virginia	a University;	Dr. Scott Bo	wdridge; 11	94 Evansdal	e Dr., 2213	Ag Sci Bldg.	, Morgantown, W	V 26506; 304-293-2003
19-101	9017	+0.2	+1.3				110.4	
19-102	9042	+0.2	+1.8	+3.1	-0.0	-1.1	119.1	
	avg.	+0.1	+1.1	+2.2	+0.0	-0.3	112.3	