

# finalreport

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**Prepared by:** **AUSTRALIAN ANGUS ALLIANCE  
(AAA)**

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## **Integrated Angus progeny test program incorporating ultrasound and new feed intake technology.**

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**MLA Research and Development Partnership Program**  
**Progress Report, July, 2003 to December 2003**

**PROJECT TITLE**

**AUSTRALIAN ANGUS ALLIANCE (AAA)**

**Integrated Angus progeny test program incorporating ultrasound and new feed intake technology.**

**ACTIVITIES REPORTED**

**1. Progeny Testing**

Feedlot Performance and Carcase Data – W Steers (Rutherglen)  
Spring Joining 2003

**2. Ultrasound**

(No activity to be reported)

**3. Net Feed Intake**

NFI Data of W Steers

## **Introduction**

The AAA Progeny Test Program is based at Werribee Agriculture's commercial Angus herd, Melbourne. Nominated test bulls are benchmarked against proven, high accuracy reference sires. Test sires are randomly artificially inseminated to 100 females each, to ensure a good statistical representation of steer progeny per sire. The AAA Progeny Test Program is unique in its ability to manage large contemporary groups from birth until slaughter.

All calves are identified and weighed at birth. All male calves are steered and weighed regularly from weaning through to feedlot entry. Feedlot performance is recorded and carcass data collected and compared with ultrasound scanning data collected before feedlot entry. Heifers are also weighed and scanned.

Net Feed Intake data is also collected on two groups of 60 steers annually representing test and reference sires at Agriculture Victoria's Rutherglen Research Station.

All data collected from the AAA Progeny Test program is sent to ABRI to be included in the Angus Group Breedplan analysis to improve the EBV accuracy of the sires.

## **PROGENY TESTING**

### **AAA– Spring 2003 Artificial Insemination Program**

X heifers were artificially inseminated to potential elite test sires and reference sires over two cycles from November to December 2003. Table 1 shows a list of test and reference sires used in the spring 2003 AI program. Calves are due to be born in August to September, 2004. Calves will be tagged, weighed and recorded at birth. All calves will be registered with the Angus Society of Australia.

## **Werribee Agriculture - W (2001) Steers**

### **NFI assessment, Feedlot Performance, Carcase Results and \$ Value**

Table 2 shows a list of test and reference sires of the W steers.

- **Net Feed Intake – Rutherglen**

The second year of testing AAA progeny test steers for Net Feed Intake was completed in 2003. Net Feed Intake is a metabolic measure of an animal's performance (J. Davis, 2002). NFI was calculated using weigh units designed to record individual animals identification, liveweight and feed intake. Results for each animal were calculated and indexed to the average for the group. Those animals with a more negative index are more efficient than expected based on their live weight, feed intake and ADG (kg/day). This data will be sent into Breedplan to produce NFI EBVs for the sires represented.

NFI calculations were based on differences in kilograms of feed per day of a ration containing 10 MJ of ME per kilogram of dry matter. Steers were fed a high roughage diet to try and replicate commercial conditions, the objective was to look at feed efficiency and NFI sire rankings not to achieve maximum liveweight gain.

Table 2 shows a list of test and reference sires of the W steers tested for NFI.

Table 3 and Table 4 shows the sire summary for Group 1 and Group 2 W steers respectively.

These tables show the differences in steer progeny of sires for Adjusted Net Feed Intake and Feed Conversion Ratio (FCR). Adjusted net feed intake is the difference between individual steers net feed intake and that of the average of the group. FCR is calculated by dividing total dry matter eaten by total weight gain. It is a measure of how efficient an animal is in converting kg of feed into kg of weight. The lower the FCR the better the animal is at feed conversion.

- **Feedlot Performance, Carcase Results and \$ Value**

The second group of W steers fed at Rutherglen Feedlot for 184 days, as a part of the Net Feed Intake assessment were killed at O'Connors and MSA graded for carcase characteristics. The performance of each sire was calculated using actual Hot Standard Carcase Weight (HSCW), and the dollar value relating to the marble score which each steer carcase achieved. This value was calculated using the Elders Based Marketing Grid (Dick Whale) shown in Table 5. Table 6 and Table 7 shows the average performance of each AAA sire for Group 1 and Group 2 respectively. These results show a difference of \$237 and \$483 between the highest and lowest performing sire in Group 1 and Group 2 of W steers.

## **ULTRASOUND**

(No activity to report)

## **CONCLUSION**

All AAA progeny test register calves were registered with the Angus Society of Australia, under the Progeny Test Register (PTR). Calving ease, birth weights, weaning weights, ultrasound scanning data, NFI data, feedlot performance and carcass data were submitted into Angus Group Breedplan to contribute to the EBV accuracy of the sires represented. Progeny testing is still the most accurate way of assessing the genetic merit of sires for carcass traits.

**Table 2: AAA Progeny Test and Reference Sires of W Calves**

<b>Sire</b>	<b>ASA ID</b>
Ythanbrae Henry VIII	VLYU8
Ythanbrae New Design 036 U84	VLYU84
GAR Bingo 4192	USA4192
Ythanbrae GAR Ext T4	VLYT4
GAR Paramount 8908	USA8908
Ythanbrae True Blue N033	VLYN33
Bald Blair New Design 036 U41	NBBU41
Ythanbrae New Design 036 T257	VLYT257
Narrangullen Ultimate Design U27	NARU27
Ythanbrae Calculator U28	VLYU28
GAR Payload 3674	USA3674
Ythanbrae New Design 036 U242	VLYU242
Ythanbrae Gladiator U311	VLYU311
Feltons Meat Packer 62	USA13221587

**Table 3: NFI AAA Sire summary of W steers (Group 1- NRE Rutherglen)**

<b>AAA Sire</b>	<b>No Steers</b>	<b>ADG (kg/day)</b>	<b>Daily Feed Intake (kg)</b>	<b>Adjusted Net Feed Intake</b>	<b>Feed Conversion Ratio</b>
USA13221587	3	1.9	12.6	-1.1	5.7
NBBU41	4	1.9	14.1	-0.4	6.5
VLYU84	5	1.9	14.2	-0.4	6.5
USA3674	4	2.0	13.6	-0.3	6.0
VLYN33	5	1.7	13.4	-0.1	6.8
USA4192	5	1.9	14.5	0.0	6.6
VLYU242	5	1.8	14.1	0.0	6.7
VLYT4	5	2.0	15.2	0.1	6.8
VLYU28	5	2.0	14.6	0.2	6.4
USA8908	5	2.0	14.8	0.3	6.4
NARU27	4	1.7	14.2	0.9	7.4
VLYU311	4	1.8	15.2	1.1	7.6
VLYU8	4	2.1	17.0	1.8	7.1
<b>AVERAGE</b>	<b>58</b>	<b>1.8</b>	<b>14.5</b>	<b>0.0</b>	<b>6.7</b>

**Note: Table reproduced with the permission of Agriculture Victoria. Sire averages provided for interest purposes only.**

**Figure 1: AAA sire summary for Average Daily Gain (kg/day) of V steers.**

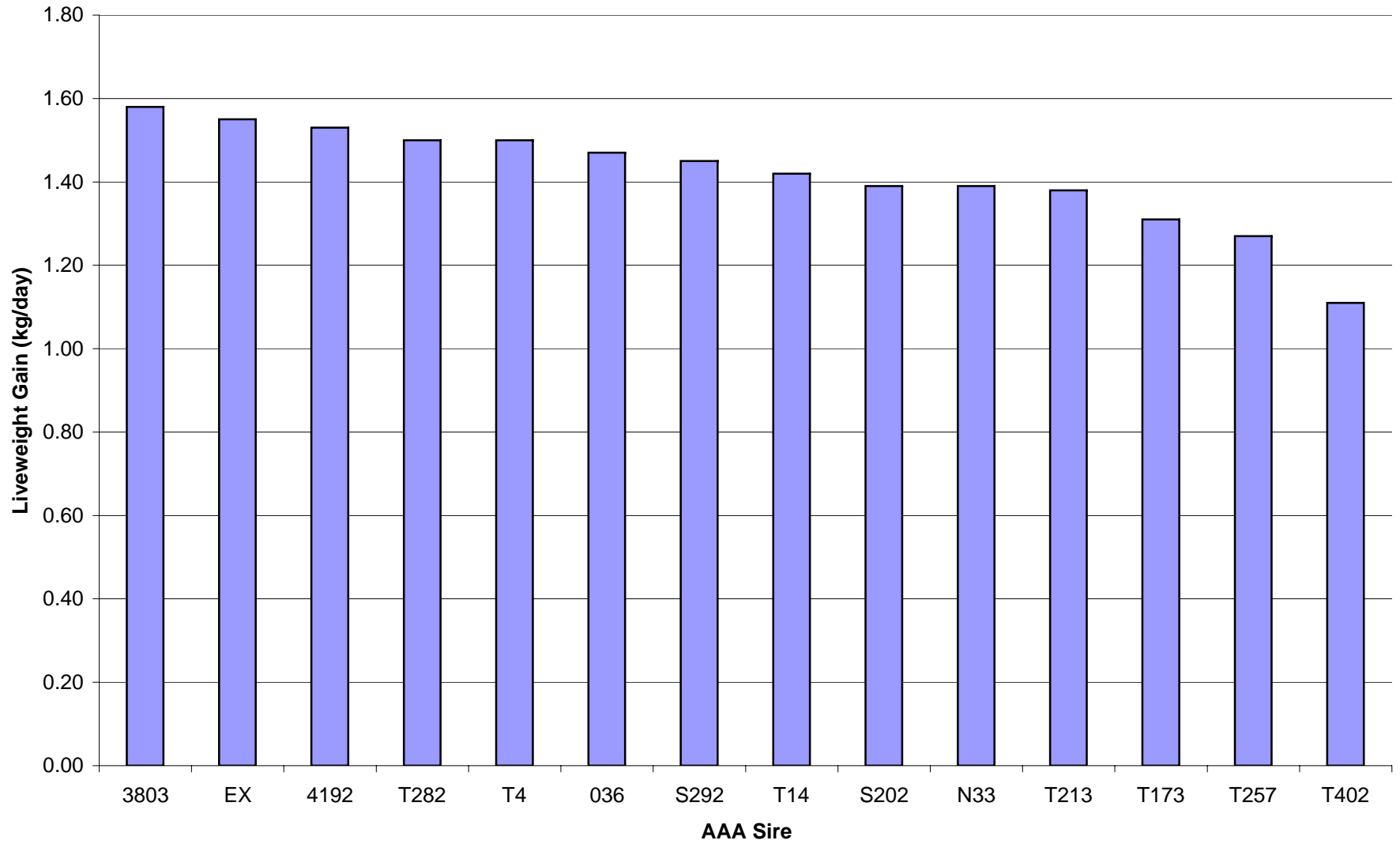
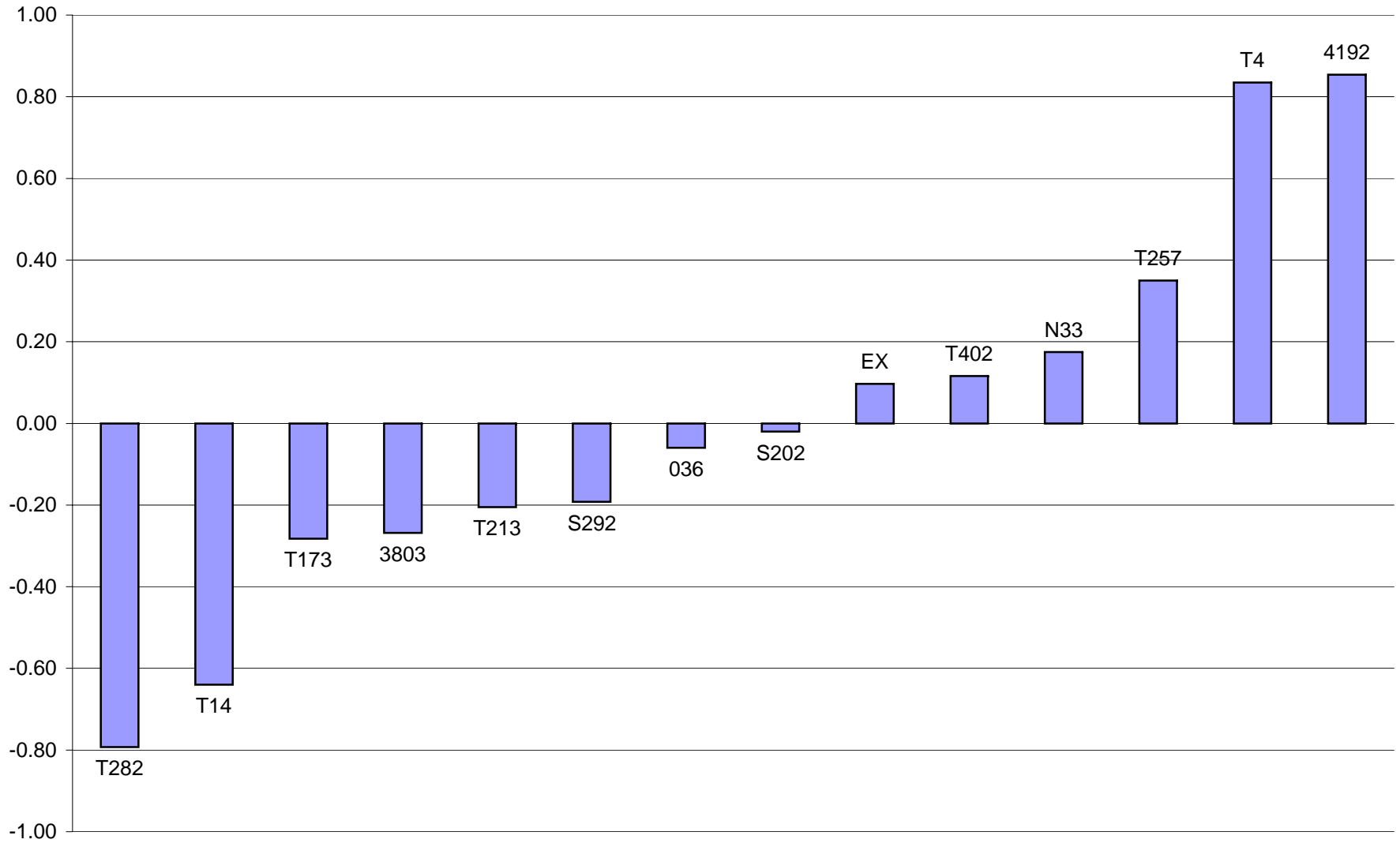
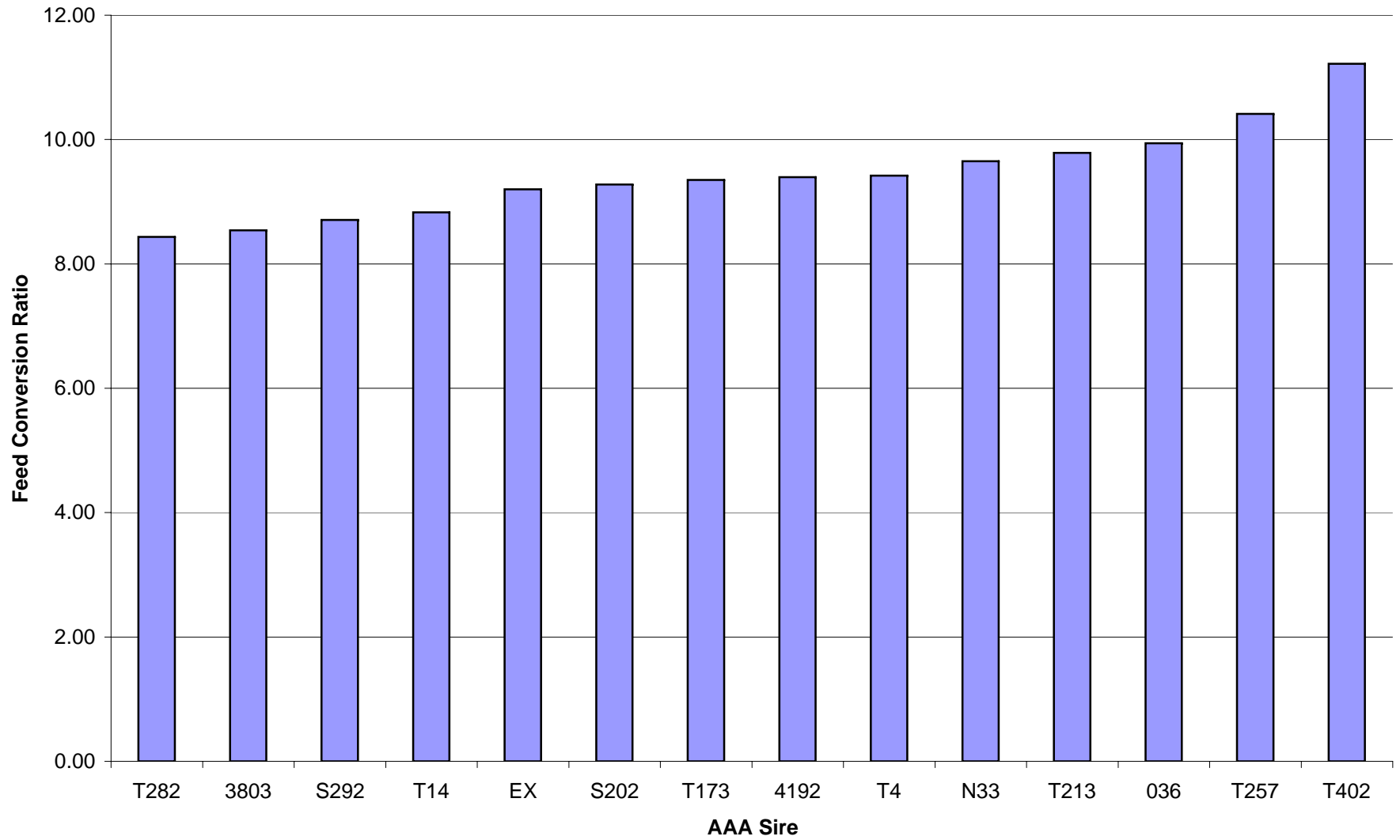




Figure 2: AAA sire summary of Adjusted Net Feed Intake of V steers.



**Figure 3: AAA sire summary for Feed Conversion Ratio of V steers.**



**Table 4: NFI AAA Sire summary of W steers (Group 2- NRE Rutherglen)**

<b>AAA Sire</b>	<b>No Steers</b>	<b>ADG (kg/day)</b>	<b>Daily Feed Intake (kg)</b>	<b>Adjusted Net Feed Intake</b>	<b>Feed Conversion Ratio</b>
VLYU311	6	1.3	15.0	-0.9	10.8
VLYT4	5	1.3	15.1	-0.7	10.2
VLYU8	6	1.5	16.0	-0.6	9.9
NBBU41	4	1.4	15.8	-0.5	10.2
VLYU28	7	1.5	15.5	-0.2	9.3
USA3674	4	1.5	15.4	0.0	8.8
NARU27	4	1.3	15.4	0.0	10.2
VLYU242	3	1.2	14.8	0.1	10.5
VLYU84	4	1.7	16.7	0.2	8.8
USA13221587	5	1.5	15.9	0.5	9.3
VLYN33	4	1.3	15.4	0.8	10.5
USA8908	6	1.5	17.2	0.8	10.2
USA4192	4	1.7	16.7	0.9	8.6
<b>AVERAGE</b>	<b>62</b>	<b>1.4</b>	<b>15.8</b>	<b>0.0</b>	<b>9.8</b>

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**Figure 1: AAA sire summary for Average Daily Gain (kg/day) of V steers.**

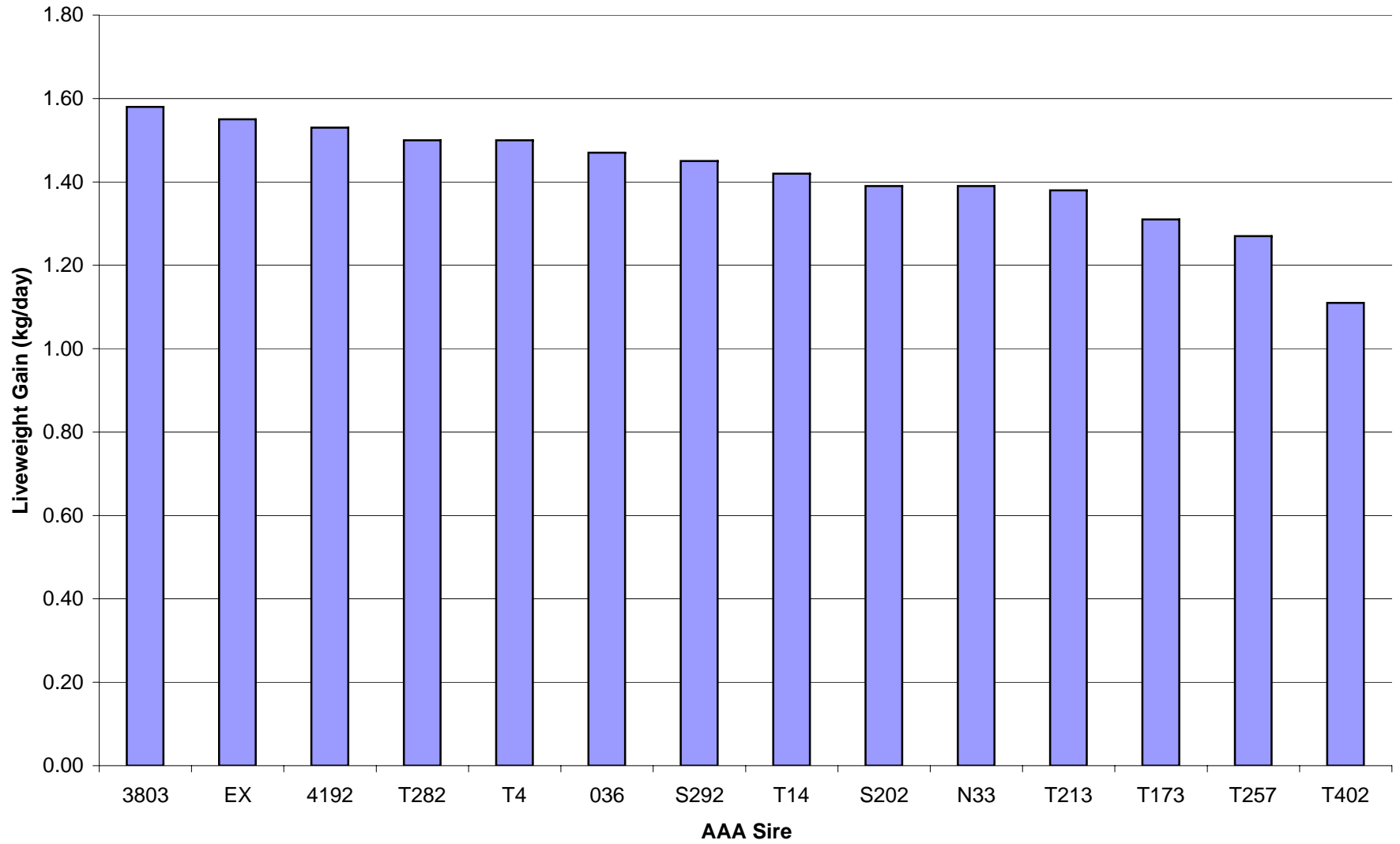
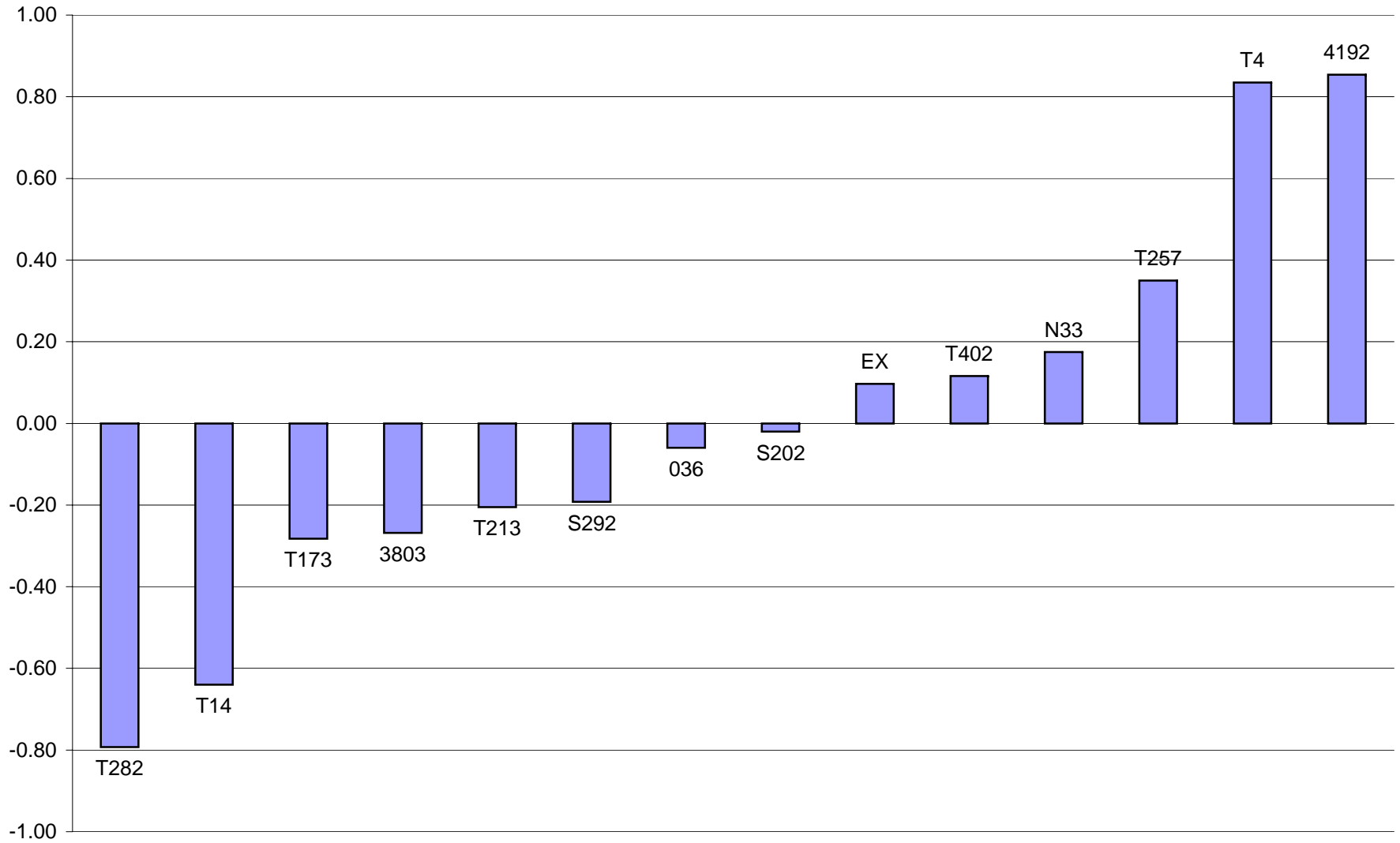
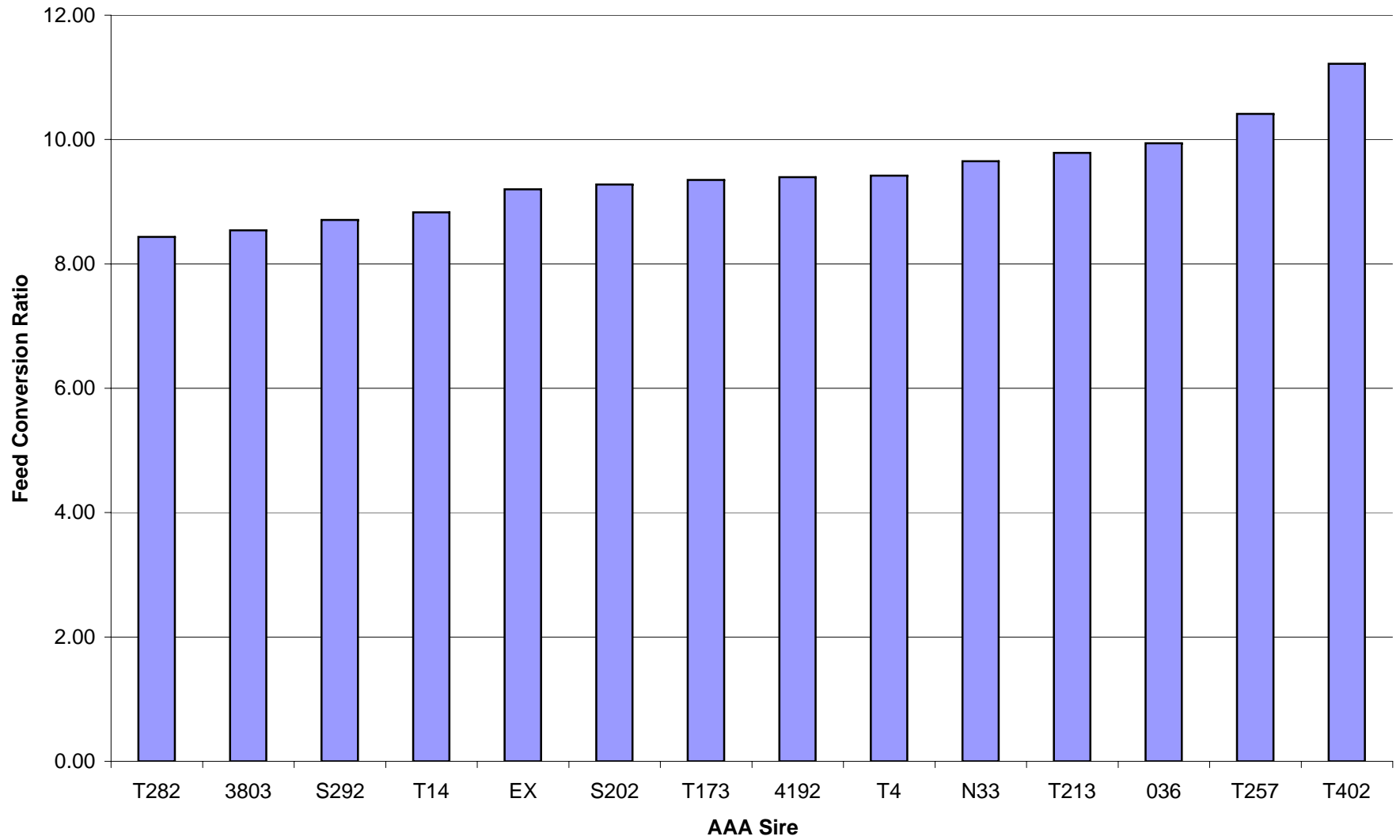


Figure 2: AAA sire summary of Adjusted Net Feed Intake of V steers.



**Figure 3: AAA sire summary for Feed Conversion Ratio of V steers.**



**Table 5 AAA Progeny Test and Reference Sires - Spring Joining 2003**

<b>Sire</b>	<b>ASA Id</b>	<b>Sire</b>	<b>Dams Sire</b>
<b>GAR Prime Design</b>	USA14011547	036	1680
<b>GAR Yield Grade</b>	USA13724351	1680	EXT
<b>Ythanbrae S3</b>	VLYS3	TSAR	DDAVID
<b>Ythanbrae Henry VIII</b>	VLYU8	036	GTMAX
<b>Lawsons The Tank X1235</b>	VLYX1235	PIN	036
<b>Ythanbrae GAR Precision V329</b>	VLYV329	1680	EXT
<b>Ythanbrae GAR New Design 036 V429</b>	VLYV429	036	BAND155
<b>Ythanbrae Rocky W129</b>	VLYW129	RD	036
<b>Ythanbrae The Don W57</b>	VLYW57	036	1680
<b>Lawsons Beyond All Expectations W821</b>	VLYW821	4915	036
<b>Lawsons Henry VIII X971</b>	VLYX971	U8	1680
<b>Lawsons Henry VIII X989</b>	VLYX989	U8	1680

**Table 6: AAA average sire performance in \$ value for W steers (Group 1- NRE Rutherglen)**

<b>AAA Sire</b>	<b>No Steers</b>	<b>HSCW</b>	<b>EMA</b>	<b>AUSMB</b>	<b>Average \$ Return</b>
VLYU8	4	415	86.0	3.3	<b>1565</b>
VLYU28	5	397	88.6	3.2	1482
USA4192	5	387	76.2	2.7	1430
VLYU84	5	385	82.0	3.1	1425
VLYU242	5	380	82.6	3.0	1407
VLYT4	5	<b>419</b>	85.8	2.8	1401
USA13221587	3	378	88.0	3.1	1399
USA8908	5	394	<b>88.8</b>	2.8	1393
USA3674	4	370	83.0	3.2	1386
NARU27	4	351	85.3	<b>3.7</b>	1363
NBBU41	4	360	79.6	3.4	1355
VLYN33	5	360	83.8	3.1	1353
VLYU311	4	374	80.8	2.8	1328
<b>AVERAGE</b>	<b>58</b>	<b>382</b>	<b>84</b>	<b>3.1</b>	<b>1408</b>



**Table 7: AAA average sire performance in \$ value for W steers (Group 2- NRE Rutherglen)**

<b>AAA Sire</b>	<b>No Steers</b>	<b>HSCW</b>	<b>EMA</b>	<b>AUSMB</b>	<b>Average \$ Return</b>
VLYU8	6	<b>422</b>	<b>84.0</b>	<b>3.0</b>	<b>1521</b>
VLYU28	7	410	82.0	2.8	1468
VLYU311	6	407	79.0	2.7	1451
USA13221587	5	383	81.0	2.9	1416
NBBU41	4	400	79.0	2.6	1403
VLYU84	4	418	80.0	2.2	1300
USA3674	4	379	77.0	2.2	1247
USA8908	6	411	79.0	2.0	1193
VLYT4	5	410	80.0	1.9	1190
USA4192	4	387	77.0	1.9	1174
NARU27	4	376	81.0	2.4	1171
VLYN33	4	372	77.0	1.7	1078
VLYU242	3	358	76.0	1.9	1038
<b>AVERAGE</b>	<b>62</b>	<b>398</b>	<b>80</b>	<b>2.4</b>	<b>1305</b>