AUSTRALIAN GOVERNMENT
ENVIRONMENT PROTECTION AND HERITAGE COUNCIL

- **Reducing Emissions From Non-Road**
- **Spark Ignition Engines and Equipment**
- **Consultation Regulation Impact Statement**

COMMENTS OF THE OUTDOOR POWER EQUIPMENT ASSOCIATION

July 25, 2010

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- Reducing Emissions from Non-Road
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COMMENTS OF THE OUTDOOR POWER EQUIPMENT ASSOCIATION

1) Introduction

The Outdoor Power Equipment Association (OPEA) appreciates the opportunity to submit comments regarding the Consultation Regulation Impact Statement published by the Non-Road Engines Working Group on behalf of the Environment Protection and Heritage Council, May 2010.

The Outdoor Power Equipment Association (OPEA) was incorporated under the Association Incorporation Act 1981 on July, 1992. We represent the major manufactures/distributors and dealers throughout Australia, of various items of outdoor power equipment. These products maintain and nurture green landscapes and healthy forests, which in turn provide enormous quality of life, health, and environmental benefits, including the sequestration of carbon dioxide and other green house gas emissions.

The OPEA estimate the value of the Australian market (2009) at an estimated $1.0 billion for sales and service. There are approximately 395,000 walk behind lawnmowers and more than 888,000 units of outdoor handheld equipment that were sold in Australia in 2009. In addition there were sales of about 80,000 replacement engines and 70,000 pumps in 2009 which equates to 1.4 million units.

The general household consumer represents the major market segment for garden equipment, accounting for up to 90% of product sales with commercial garden services and government purchasing the rest.

The OPEA also believe that in recent years it appears that the price of some garden equipment has dropped to the level where consumers regard them as disposables and observed at the same time sales of imported high polluting, low cost, old technology products has increased.

The OPEA has been very supportive of mandatory regulations for exhaust gas emissions in Australia and has been working with the Federal government and its departments as far back as 2003. In 2006 the OPEA formed an Expert Emissions Panel from its industry members being:

- Allpower Industries
- Stihl Pty Ltd
- Briggs & Stratton
- Honda Australia Motorcycle & Power Equipment Pty Ltd
- Victa Lawncare Pty Ltd
- Rover Mowers Limited
- Roy Gripske & Sons Pty Ltd
- Parklands Trading Co Pty Ltd
- Kawasaki Motors
- Husqvarna Australia Pty Ltd

Resulting in a final submission and recommendation to the then Department of the Environment and Water Resources. This paper was called
(Comparative Assessment of the Environmental Performance of Small Engines, Outdoor Garden Equipment, Environment Link & Vehicle Design and Research in February 2007).

The OPEA has developed and is providing these comments under a cooperative effort with the, European based organization Euromot, and American based Outdoor Power Equipment Institute (OPEI).

Euromot is the European Association of internal Combustion Engine Manufactures. They represent the leading manufactures of internal combustion engines used in a broad range of non-road and marine applications (construction, mining and material handling equipment, trucks and buses, agricultural and forestry equipment , lawn/garden and recreational equipment, commercial marine and sea going vessels, work boats and pleasure boats, rail traction, power generation.)
Euromot has been working for many years with international regulatory bodies, e.g. European Union, the UN economic commission for Europe (ENECE), the UN International Maritime Organisations (IMO) and the Central Commission for the navigation on the Rhine (CCNR). In addition, they are seeking an open and fair dialogue with national governments to provide reliable know-how on advanced internal combustion engine technologies in general and, in particular, on the feasibility of environmental as well as cost effective product regulations. To achieve a pro-active engagement of all stakeholders in international harmonisation of regulations effecting engines and equipment, they coordinate their activities worldwide (USA and Canada, China, India, Japan) with trade associations of the non-road and marine industry sector.

The Outdoor Power Equipment Institute (OPEI) is an international trade association representing the $15 billion landscape, lawn and garden, forestry and utility equipment manufacturing industry. OPEI is committed to ongoing efforts to ensure consumer safety and access to outdoor power equipment in order to maintain and enhance outdoor landscapes. The association serves as an industry advocate on behalf of its members before federal, state and international legislative and regulatory bodies.
OPEI is a recognised Standards Development Organisation for the American National Standards Institute (ANSI) and active internationally through the International Standards Organisation (ISO) in development of safety standards.

2) Summary of OPEA Comments

OPEA strongly supports the need for Australia to adopt environmental requirements for the small non-road spark-ignition engine sector based upon the U.S. EPA regulatory regulations.
The OPEA notes that the U.S. EPA regulations provide the most comprehensive requirements regarding both exhaust and evaporative emission controls for the subject engines.
However, it is important to recognize that the U.S. EPA requirements and the products designed, certified, and built to comply with these requirements are a comprehensive package that cannot be split or selectively adopted without significant influence on product availability.
The OPEA recognises that any legislation must have strong enforcement criteria/penalties for non-compliance. These enforcement rules are found within the U.S. EPA regulations and need to form the underpinning foundation for any legislation adopted in Australia.

3) Overview and Background

The U.S. EPA regulations associated with non-road spark ignition engines are segregated into three general categories: (i) small spark ignition engines ($\leq$9 kw) and large spark ignition engines $\leq$1.0 litre in displacement; (ii) large spark ignition engines (>19kw and >1.0 litre in displacement); and (iii) marine spark ignition engines.
The small spark ignition (SSI) engine category is further divided to segregate handheld engines/equipment from non-handheld engines/equipment.
In 2008, the U.S. EPA introduced the third phase (Phase III) of emission regulations for these categories.

The exhaust requirements are expressed in the chart below:

Exhaust Emissions	HC+NOx g/kW-hr	Start Year	Comments
Class I	10.0	2012	- No change in CO standards, except for marine generators, which have a 5 g/kW-hr standard.
Class II	8.0	2011	
Classes III-V	No changes in exhaust emission standards		

In addition to the exhaust requirements, EPA Phase III includes provisions to regulate the evaporative emissions. This is the first time that evaporative emissions have been regulated for this sector. Unlike the exhaust emission requirements, which apply only to the engine manufacturer, evaporative emissions apply to engine manufacturers, equipment manufacturers, or to component manufacturers, vastly expanding affected parties.
Australia should understand this requirement and consider the potential stakeholders involved. The requirements are expressed in the chart below:

US EPA Phase III Starting Dates for Evaporative Emission Standards			
Evaporative Controls	Class I (Non Hand Held)	Class II (Non Hand Held)	Classes III-V (Hand Held)
Fuel Hose Permeation 15 $g/m^2/day$	2009	2009	2012-2016 (Cold Weather Fuel Line Phase In)
Fuel Tank Permeation 15 $g/m^2/day$	2012	2011	2009-2013
Running loss	2012	2011	N/A

Any Test laboratory in Australia that audits engine certification or in-fact certifies engines to the US EPA regulation must have the ability to utilise the same U.S. EPA certified test fuel and procedures that are laid down in the EPA regulations.

4) U.S. EPA Exhaust and Evaporative Standard Requirements

In the U.S. the current EPA exhaust emission regulations include very stringent control of exhaust emissions for non-handheld SSI engines.

These stringent emission control levels are only possible when taken in their entirety, including the use of historical manufacturer credits and future averaging, banking, and trading provisions.

There is a misconception that some U.S. manufacturers would sell their high emitting engines in Australia is incorrect. The realities are not based on any facts or survey of information regarding market differences between the U.S. and Australia but rather the premise that engines exported to Australia would not be accounted for in the U.S. ABT system.

If necessary, the U.S. EPA approach to ABT could be applied to products supplied to Australia or a version that only contains AB with no Trading provision. A simple spread sheet like the sample attached from the USA EPA could be an annual requirement from each manufacturer / importer. However the OPEA's recommendation would be to adopt a simpler, administratively lean approach.

The evaporative requirements for U.S. EPA Phase III share a number of common attributes between the various non-road spark-ignition categories, but there are also a number of differences that must be recognised to ensure the expected alignment between U.S. and Australian products.

For the non-handheld SSI engine powered equipment segment, the U.S. EPA Phase III evaporative emission requirements currently in the process of being implemented include different component compliance requirements being implemented over time. Controls include permeation controls and running loss controls but not diurnal controls.

The permeation control was implemented initially for fuel lines and is in process of being implemented for fuel tanks over time with several flexibility provisions, including an ABT system. Also, significantly different than the exhaust program, the evaporative program relies significantly on component manufacturer certification to allow engine and equipment manufacturers to certify compliance by design.

It is important for Australia to recognise that adoption of the U.S. EPA evaporative requirements **would require adoption of the complete program**, including the flexibility provisions, the component certification provisions, and engine/equipment certification by design.

5) Conclusions and Recommendations

The OPEA recommends that the Environment Protection and Heritage Council adopt exhaust and evaporative emission standards for Australia based on the U.S. EPA regulatory compliance requirements including:

a) all of the flexibility provisions included in the U.S. standards including ABT or AB; Commencing with Phase II in 2012 and aligning with US EPA Phase III and global regulation in 2016.

b) the implementation schedule for Australia provide the necessary lead time for engine and/or equipment manufacturers to align their product offerings between the U.S. and Australia. This could be between 12-18 months from when the regulation is implemented.

c) any product wishing to be sold on the Australian market that is not currently available on the US market must have a certificate of compliance to the US EPA regulation emissions levels. This can be tested in Australia by a compliance house but it must follow the strict test rules that are laid out in the EPA regulations.

d) that these regulations cover not only the manufacturer, but also the distributors, importers and retailers of Garden Equipment into Australia to ensure emissions compliance at all levels.

e) that any legislation must have strong enforcement criteria/penalties for non-compliance. These enforcement rules are found within the U.S. EPA regulations and need to form the underpinning foundation for any legislation adopted in Australia.

The OPEA looks forward to working with the Environment Protection and Heritage Council as emission requirements for non-handheld SSI engines are considered and/or adopted for Australia.

In direct response to the questions asked for in the RIS document and four the additional questions asked on your website the OPEA has the following response:

1. **Sales data for non-road spark ignition engines and equipment – see Sections 3.1.1 and 3.1.2**

   OPEA Comment:
   Attached is the industry historical data which supports our introductory OPEA statement. These numbers are audited by an independent company, ERG from the submission of sales in units from the OPEA's supplier members.

2. **Likely compliance with overseas standards of non-road spark ignition engines and equipment purchased in Australia – see Sections 3.1.1 and 3.1.2**

   OPEA Comment:
   OPEA panel members confirmed that the majority of product that is imported into the country by the OPEA members is likely to be compliant with either US EPA or EU exhaust gas regulations.

3. **Purchase costs of compliant and non-compliant non-road spark ignition engines and equipment – see Section 3.3.2**

   OPEA Comment:
   OPEA members stated that emissions control technology costs proportionally more than non compliant products, as we the OPEA members are already providing compliant products EPA Phase II (see point 2 above) therefore there is an impact on cost, which is already being incurred in the market place now . The report incorrectly stated that there was one four stroke brush cutter available in-fact more than 3 manufacturers supply four stoke engines in this category.
   Additionally we wish to respond to the statement regarding pricing and emissions compliance. Costs are based on performance and technology; we have doubts that the OPEA data can be interpreted to match this statement of the RIS report.
   EPA Phase III would add significant cost to everyone due to the high cost on new technology (due to the fact that EPA Phase III is not rolled out yet it is difficult to quantify the increased additional cost)

4. **Methodology for determining emissions performance of compliant and noncompliant non-road spark ignition engines and equipment – see Section 7.2**

   OPEA Comment:
   Were are not experts on the methodology and therefore can not comment on the validity however the cross section of equipment used in the study was very narrow

5. **Methodology for determining health costs of emissions from non-compliant non-road spark ignition engines and equipment – see Section 7.2**

   OPEA Comment:
   The OPEA are not experts on the methodology and therefore can not comment on the validity.
   The cross section of equipment used in the study was very narrow; it has to be inline with the methodology used to analyze other sectors.

6. **Costs of implementing different policy scenarios – see Table 7.4**

   OPEA Comment:
   The OPEA does not agree with either of the scenarios. There is not a lot of difference in NPV; the longer we wait the worse the situation is.
   We need to protect our borders from imports that that can not be sold in other countries that now have emissions legislation in place.

   If for example you introduced, EPA Phase II with ABT it could be implemented in 2012 or earlier, dependent on National legislation.
   The administrative costs of running such an ABT program can be summarized by the experience from Overseas:
   - *USA 20 million engines 2 fulltime people*
   - *Europe 18 million engines three fulltime people*

7. **Feasibility and associated costs for industry to meet US emission standards through phased and non-phased approaches on various starting dates – see Section 7.4.2.**

   OPEA Comment:
   The difference between phased and non phased costing is not great; however the availability of technology i.e. Evaporative compliance EPA Phase III might pose a timing issue.
   e.g. some facets of the EPA evaporative regulations will be only rolled out fully in 2016

4 Additional questions from the website

In addition to the issues raised in the RIS, views were sought on the following specific issues:

1. **What is the likely impact of adopting US emission standards on the purchase price for each type of relevant product?**

   OPEA Comment:
   For OPEA members the likelihood of excessive price increases is not considered relevant. (only if you adopt EPA Phase II with ABT, EPA Phase III would have a significant cost impact if implemented as recommended in the RIS)

2. **What is the likely impact of adopting US emission standards on consumer demand for each type of relevant product?**

   OPEA Comment:
   There will be little or negligible effect in the market in Australia (only if you adopt EPA Phase II with ABT, EPA Phase III would have significant impact on availability of product if implemented as recommended in the RIS)

3. **What is the likely impact of adopting US emission standards on consumer choice for each type of relevant product, i.e., if US standards were adopted, which products would be removed from the market?**

   OPEA Comment:
   Non compliant product will be removed from the market; however there will still be a broad choice of compliant product available.
   Look at the member suppliers in the OPEI of over 90 member companies such as Husqvarna, Tanaka, Club Car, TTI, Briggs and Stratton, John Deere, Honda, Jacobson, Kubota, MTD, Makita / Dolmar, Zenoah, Solo, Kawasaki, Tecumseh, Kohler, Ariens, Bush Hog, Toro, Subaru / Robin, Stihl, Echo, Homelite, Shindaiwa

4. **What are impacts to manufacturers and distributors of meeting US Final Rule standards through a phased approach in comparison with a non-phased approach?**

OPEA Comment:
Difference between phased and non phased costing not great, however the availability of technology i.e. Evaporative compliance EPA Phase III might pose a timing issue.

Submission made on behalf of Outdoor Power Equipment Association (OPEA)

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Robert Ross
Signature of authorised person

Office Held
President

Appendix:

1. OPE Market Trends (audited by ERG) 2002-2009
2. Calculating Spreadsheet for ABT

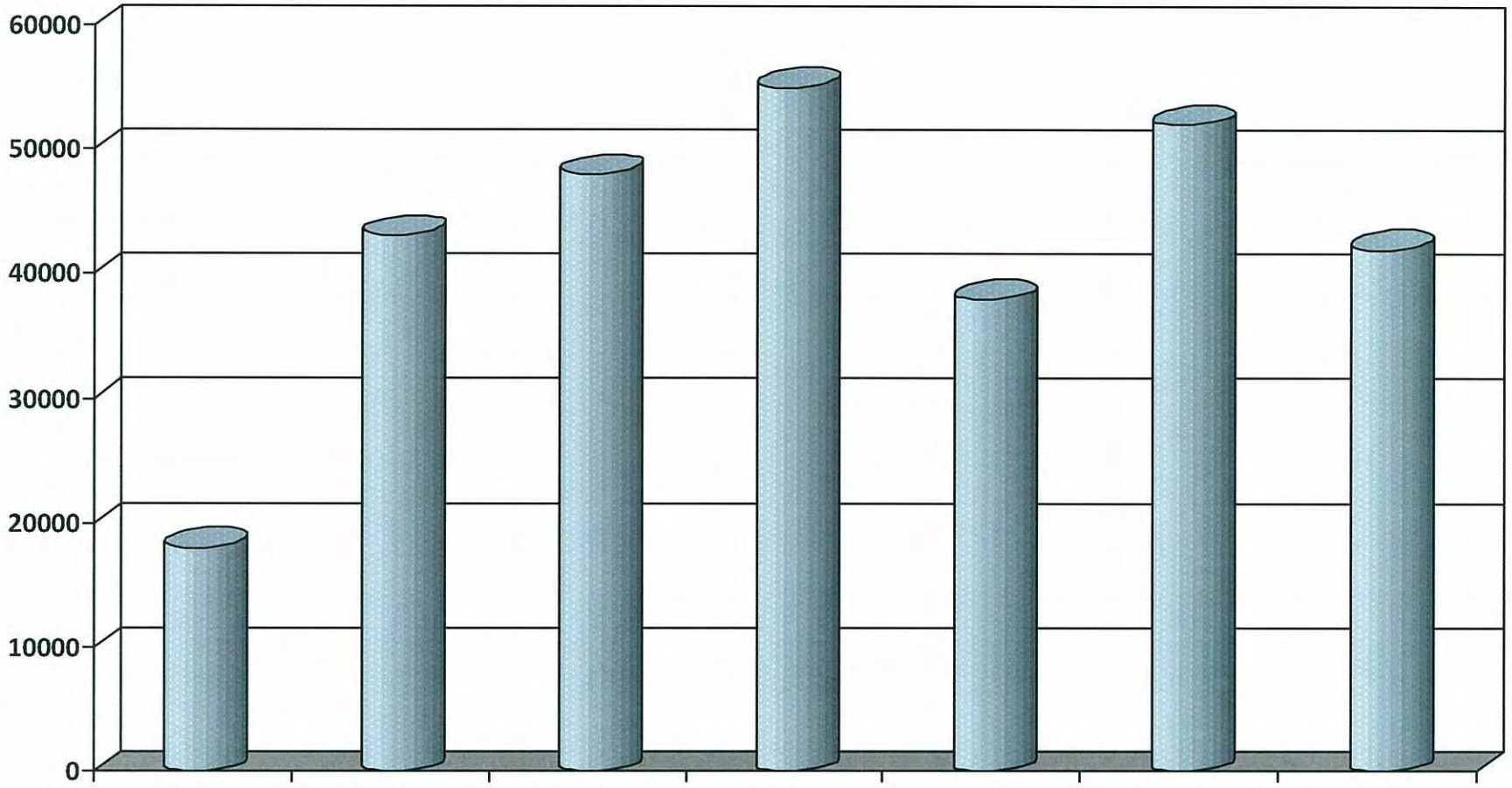
Appendix 1

OPE Market Trends 2002-2009

Outdoor Power Equipment Australia

Market Trends by Product (2002-2009)

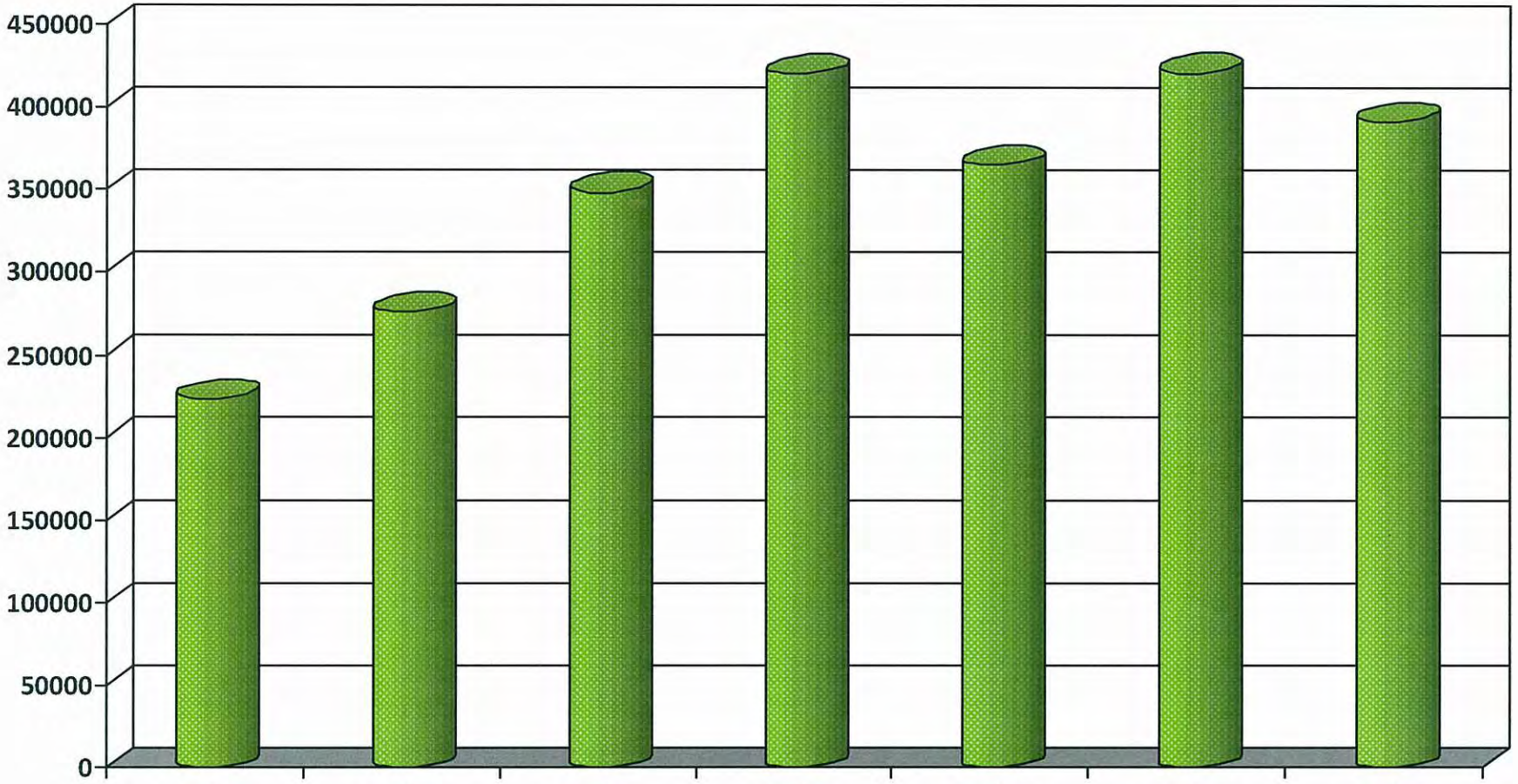
Ride On Mowers



02/03	03/04	04/05	05/06	06/07	07/08	08/09
18,000	34,100	48,000	55,000	38,000	52,000	42,000

* Includes estimations

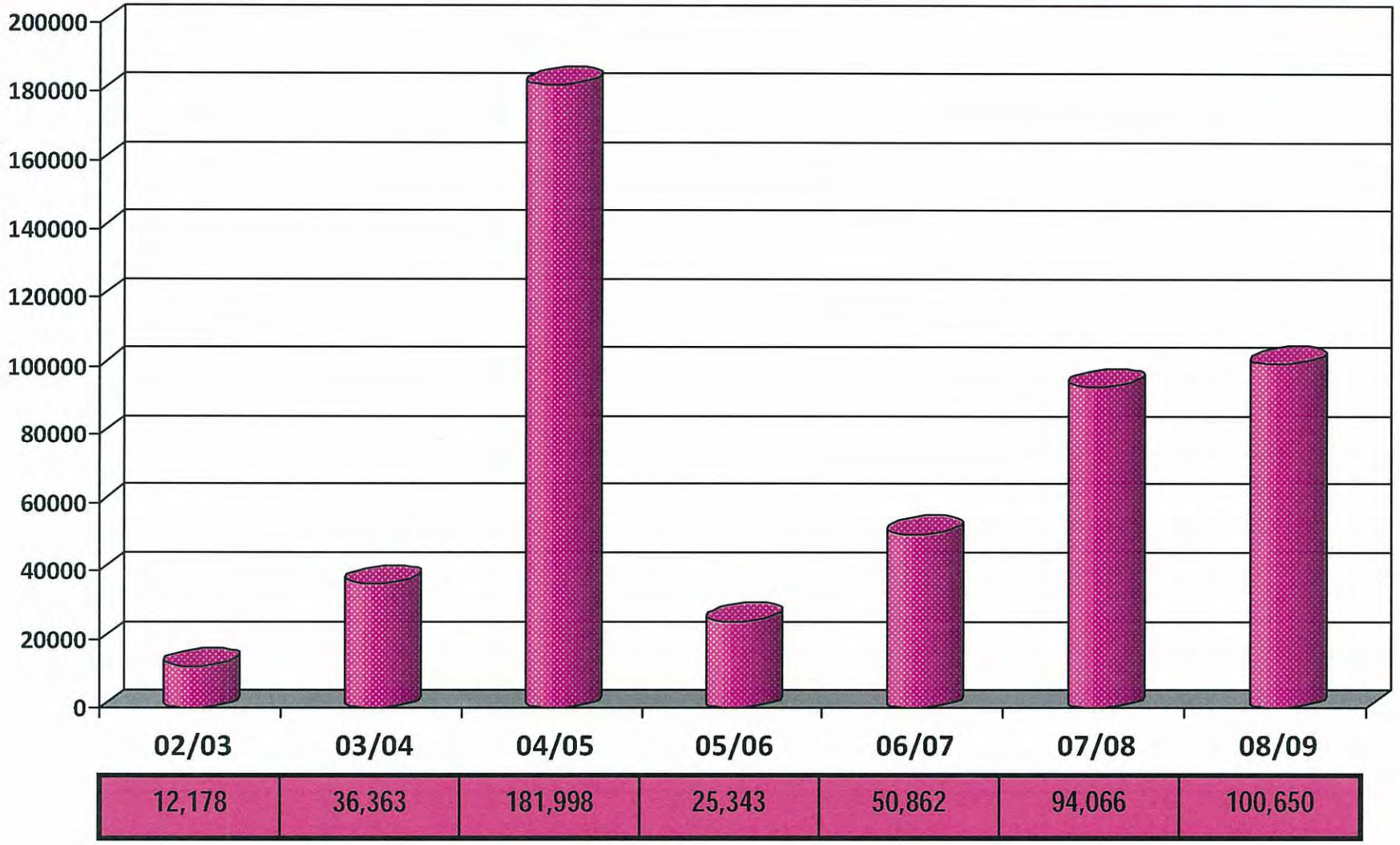
Petrol Rotary Mowers



02/03	03/04	04/05	05/06	06/07	07/08	08/09
223,609	276,372	348,370	420,129	365,078	421,000	391,530

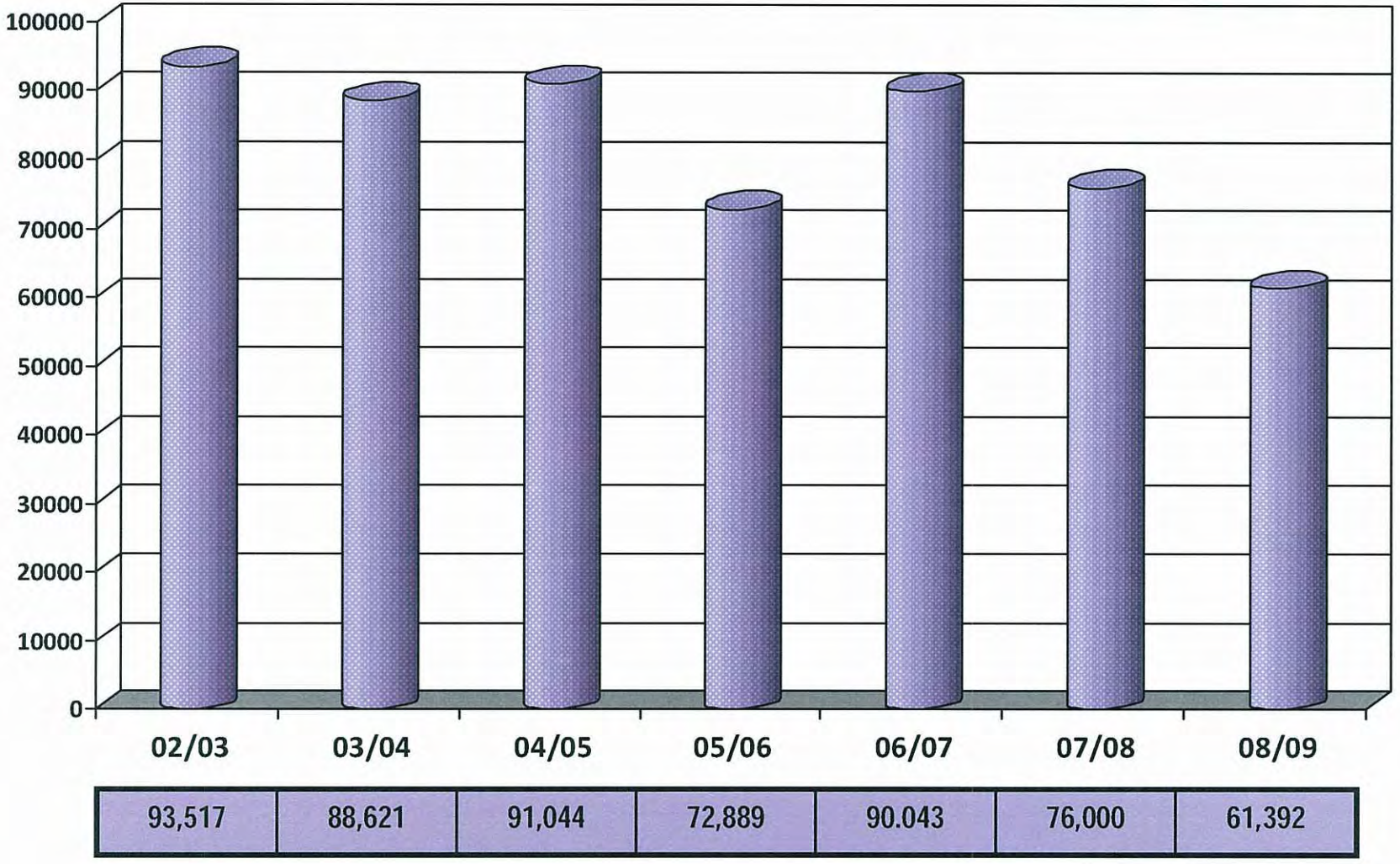
* Includes ABS estimations

Generators



* Includes ABS estimations

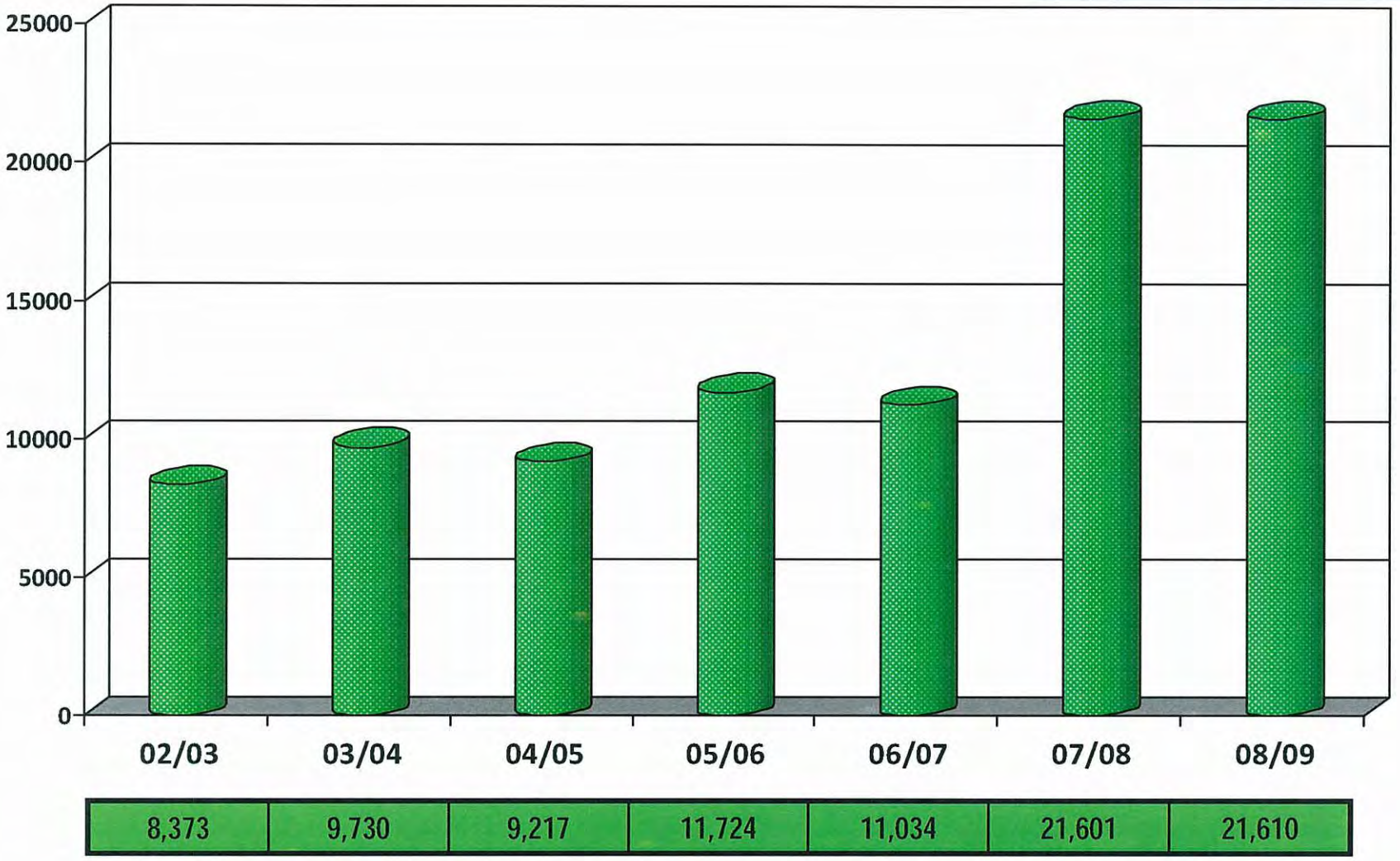
Horizontal Engines



02/03	03/04	04/05	05/06	06/07	07/08	08/09
93,517	88,621	91,044	72,889	90.043	76,000	61,392

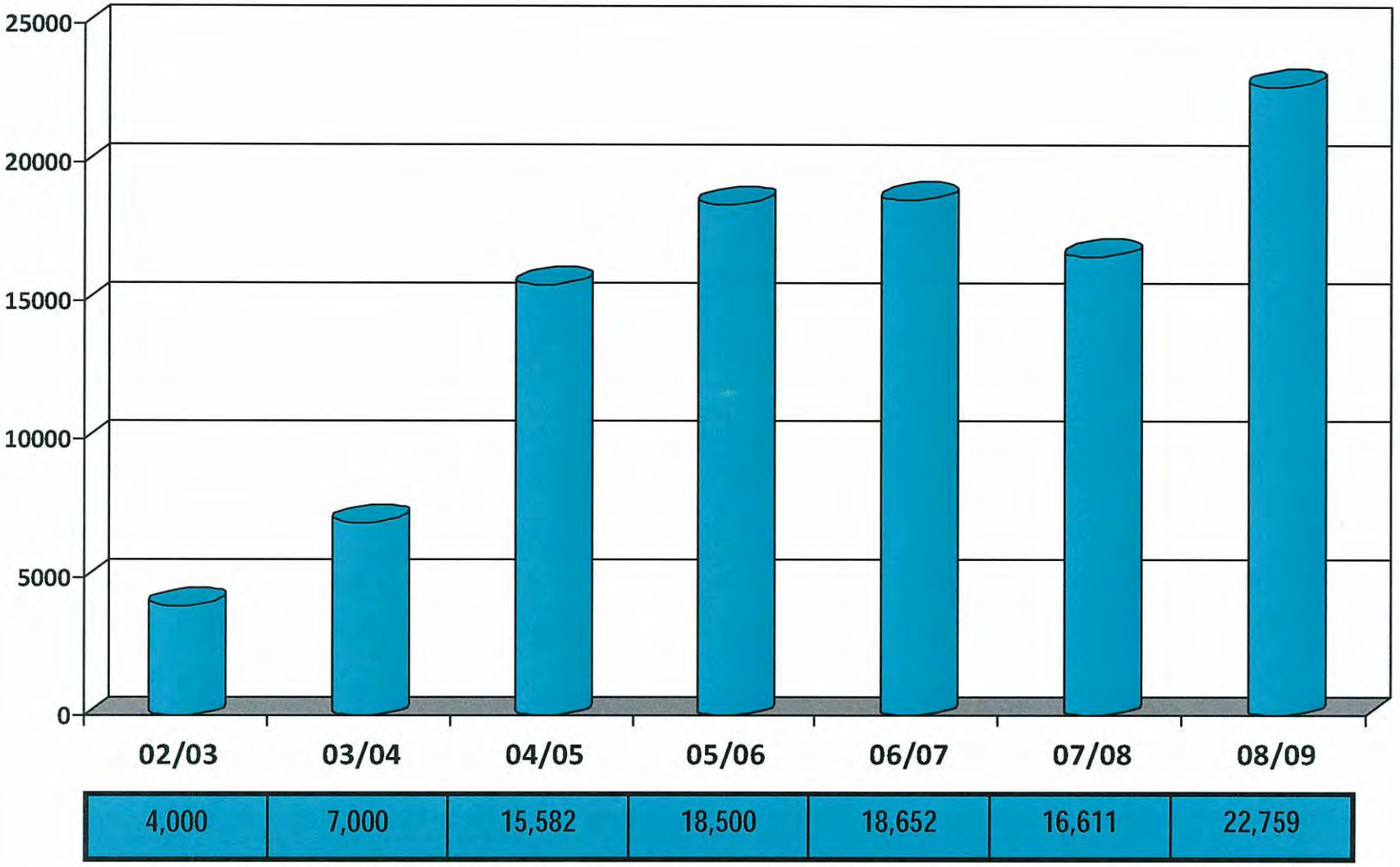
Chippers, Shredders, Mulchers

ERG International
INDUSTRY DATA SPECIALISTS



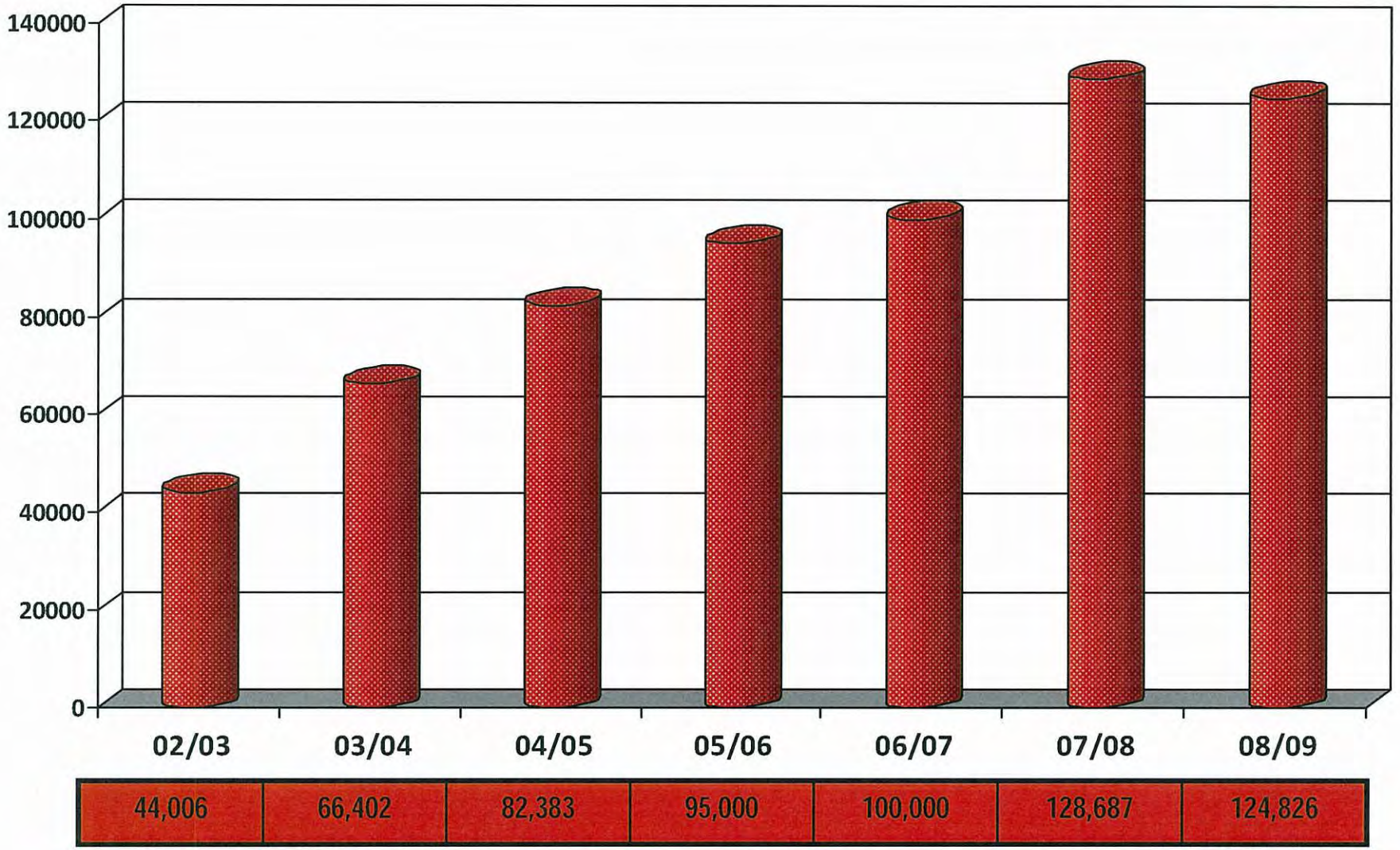
8,373	9,730	9,217	11,724	11,034	21,601	21,610

Petrol Hedgetrimmers

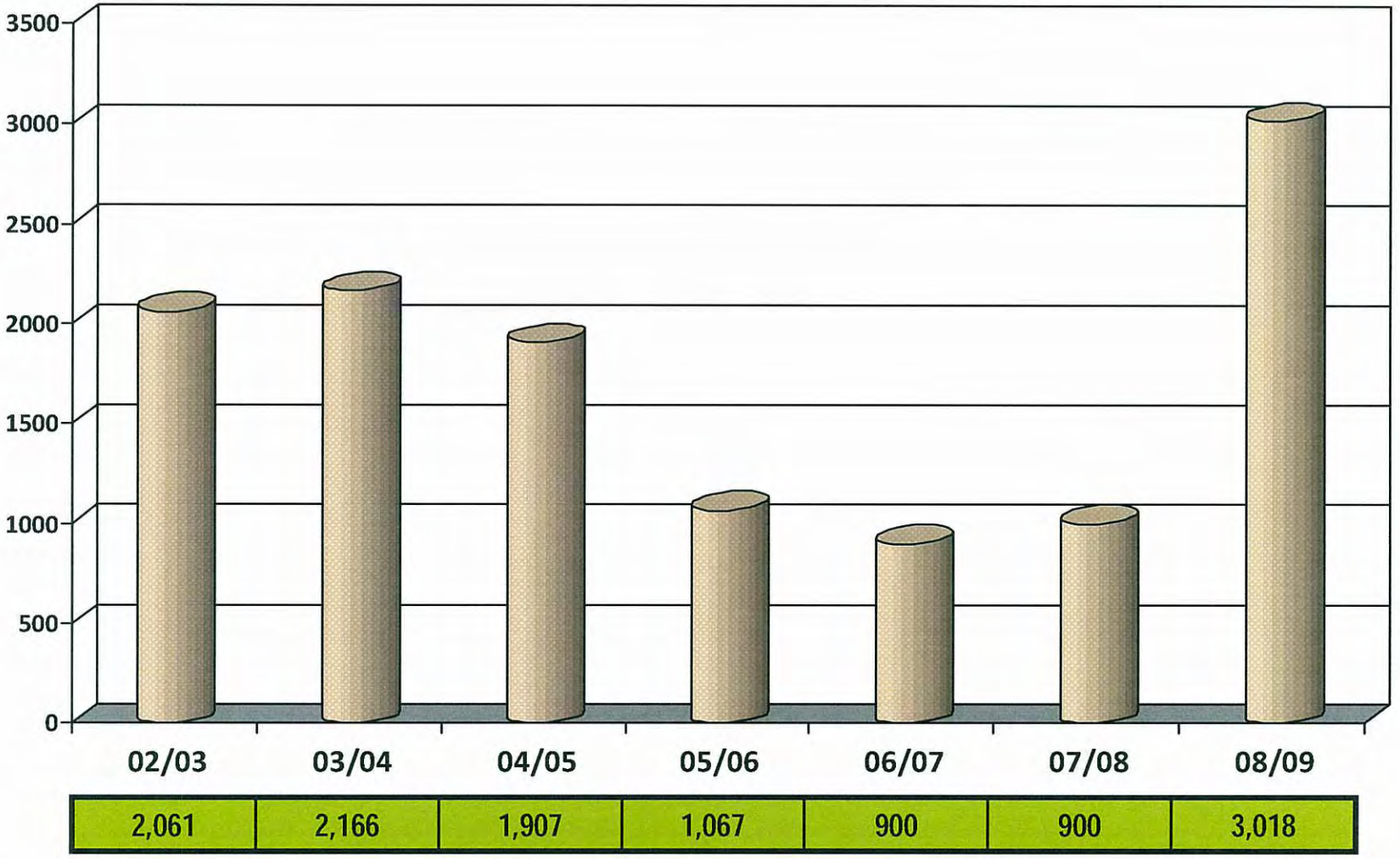


02/03	03/04	04/05	05/06	06/07	07/08	08/09
4,000	7,000	15,582	18,500	18,652	16,611	22,759

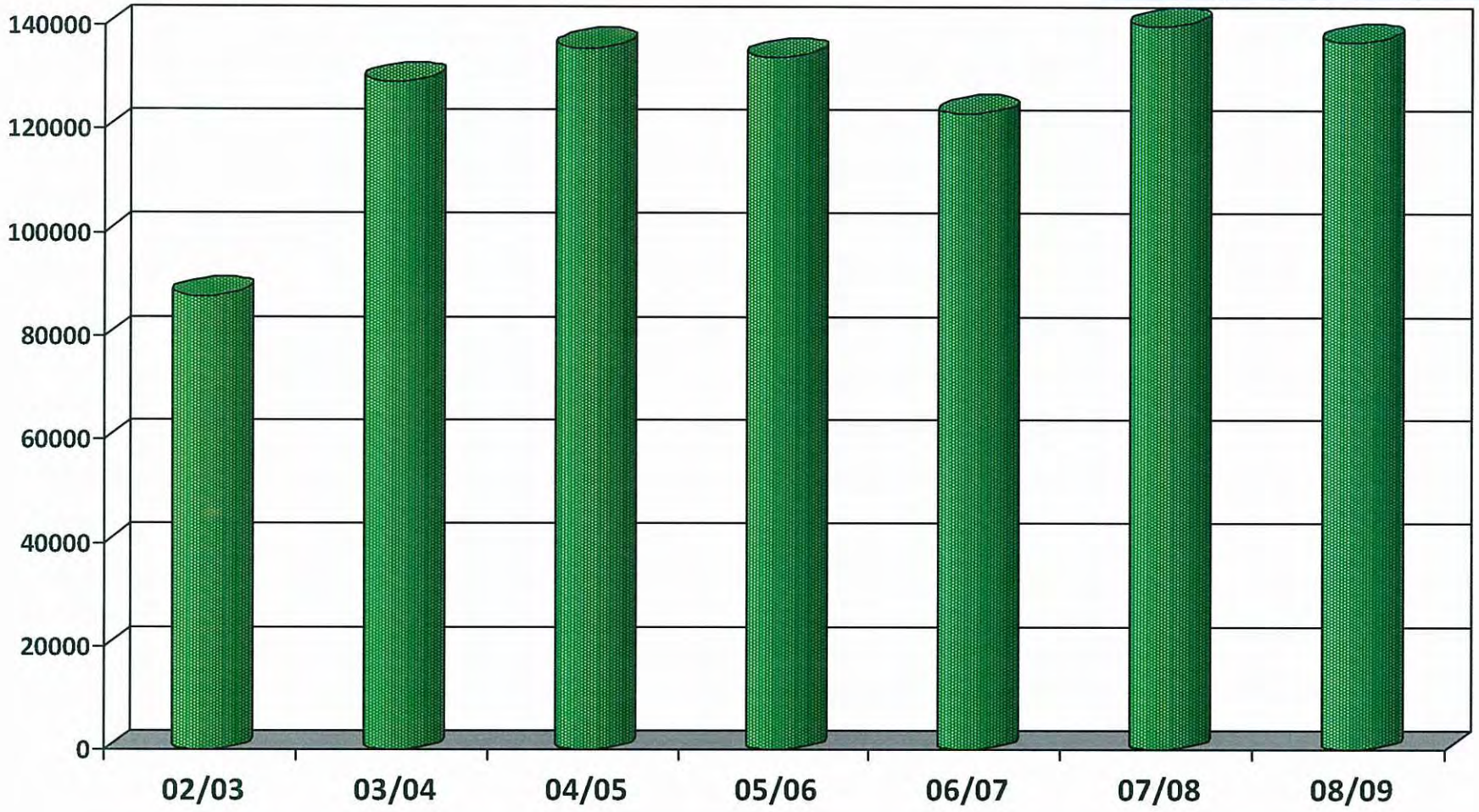
Petrol Blowers & Vacuums



Power Edgers

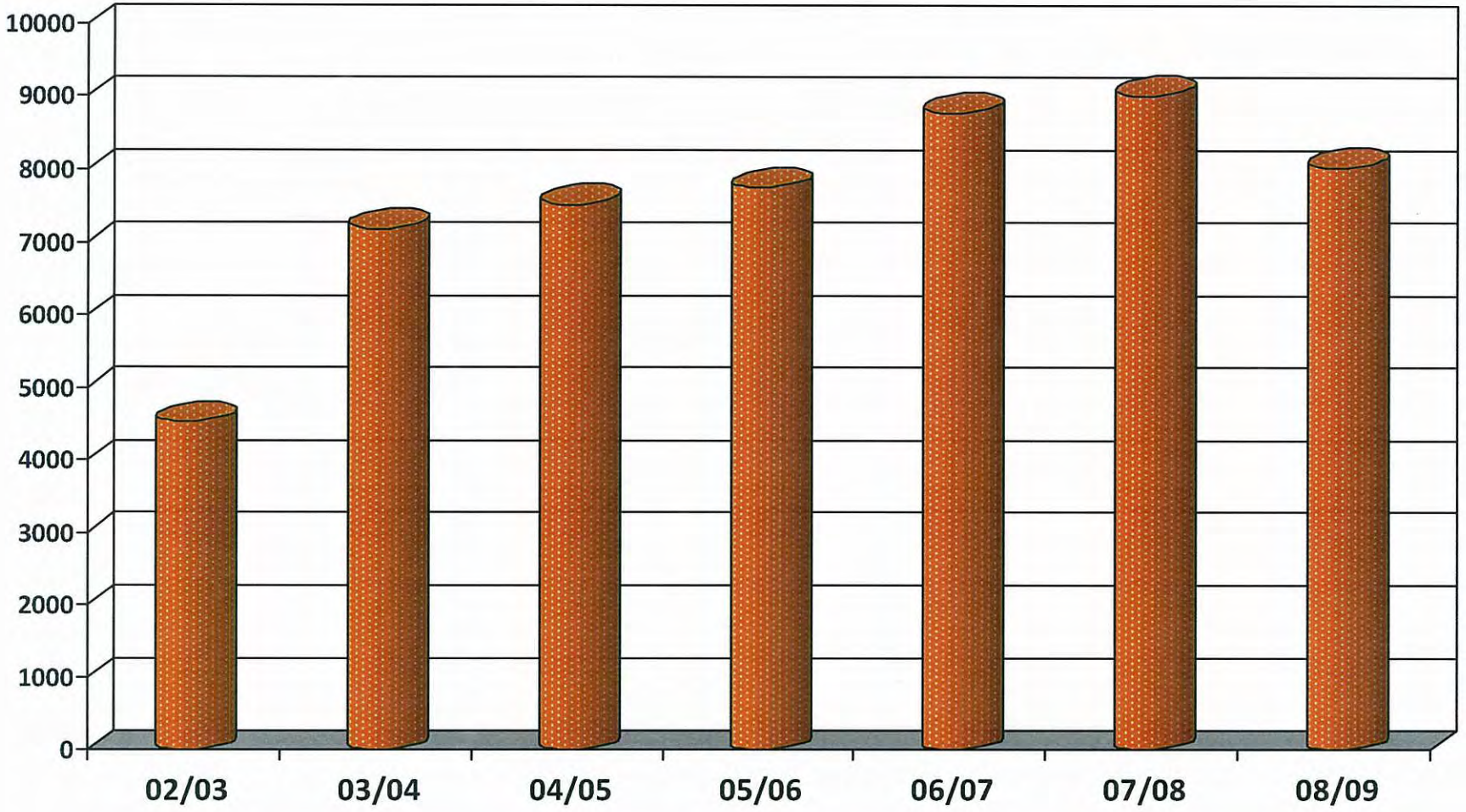


Petrol Chainsaws



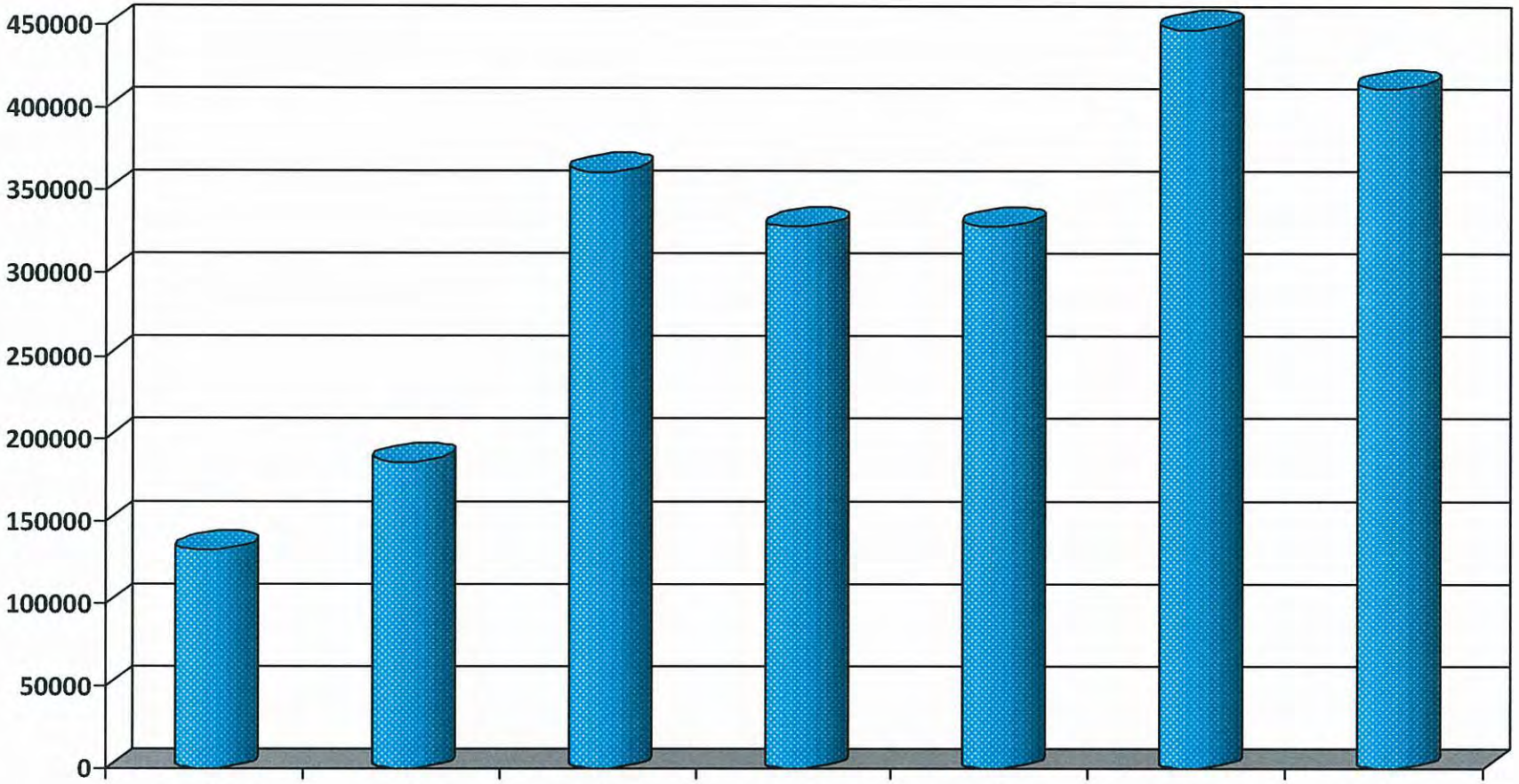
87,778	129,161	135,724	133,862	123,000	140,000	136,950

Power Cutters



02/03	03/04	04/05	05/06	06/07	07/08	08/09
4,625	7,192	7,524	7,753	8,779	9,021	8,032

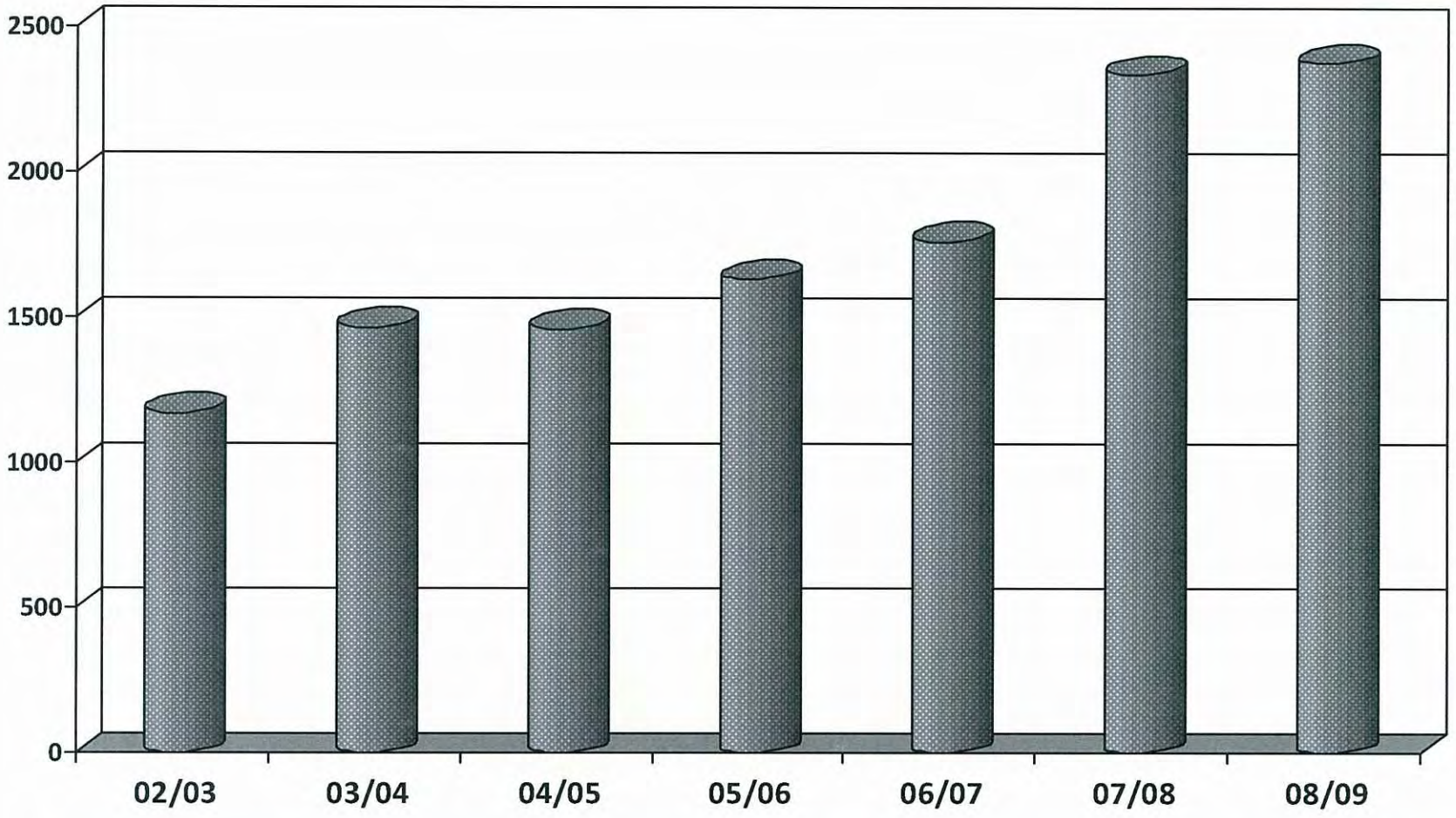
Petrol Trimmers & Brushcutters



02/03	03/04	04/05	05/06	06/07	07/08	08/09
132,334	185,504	361,081	328,304	328,641	447,731	411,912

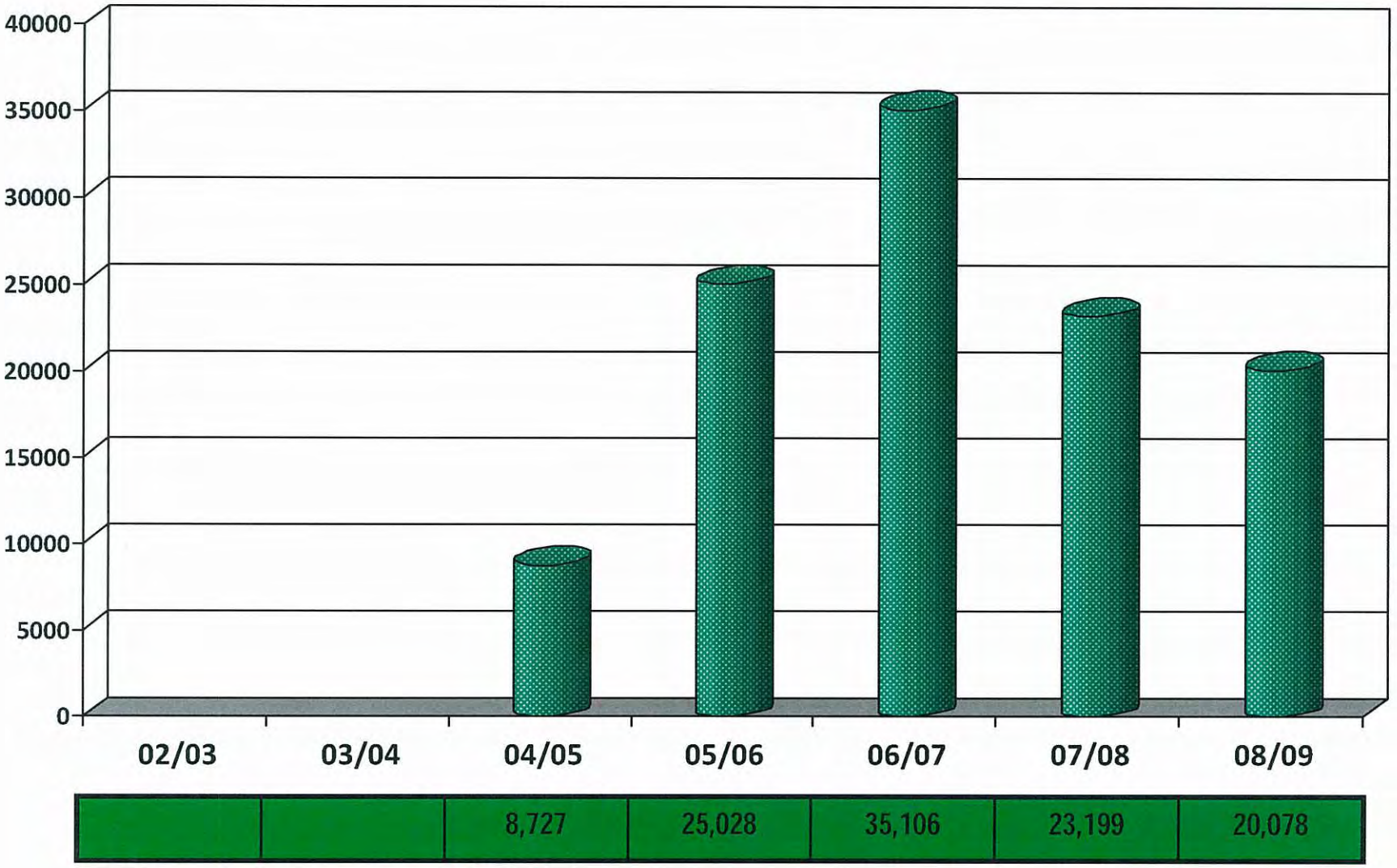
* Includes ABS estimations

Tillers & Rotary Hoes

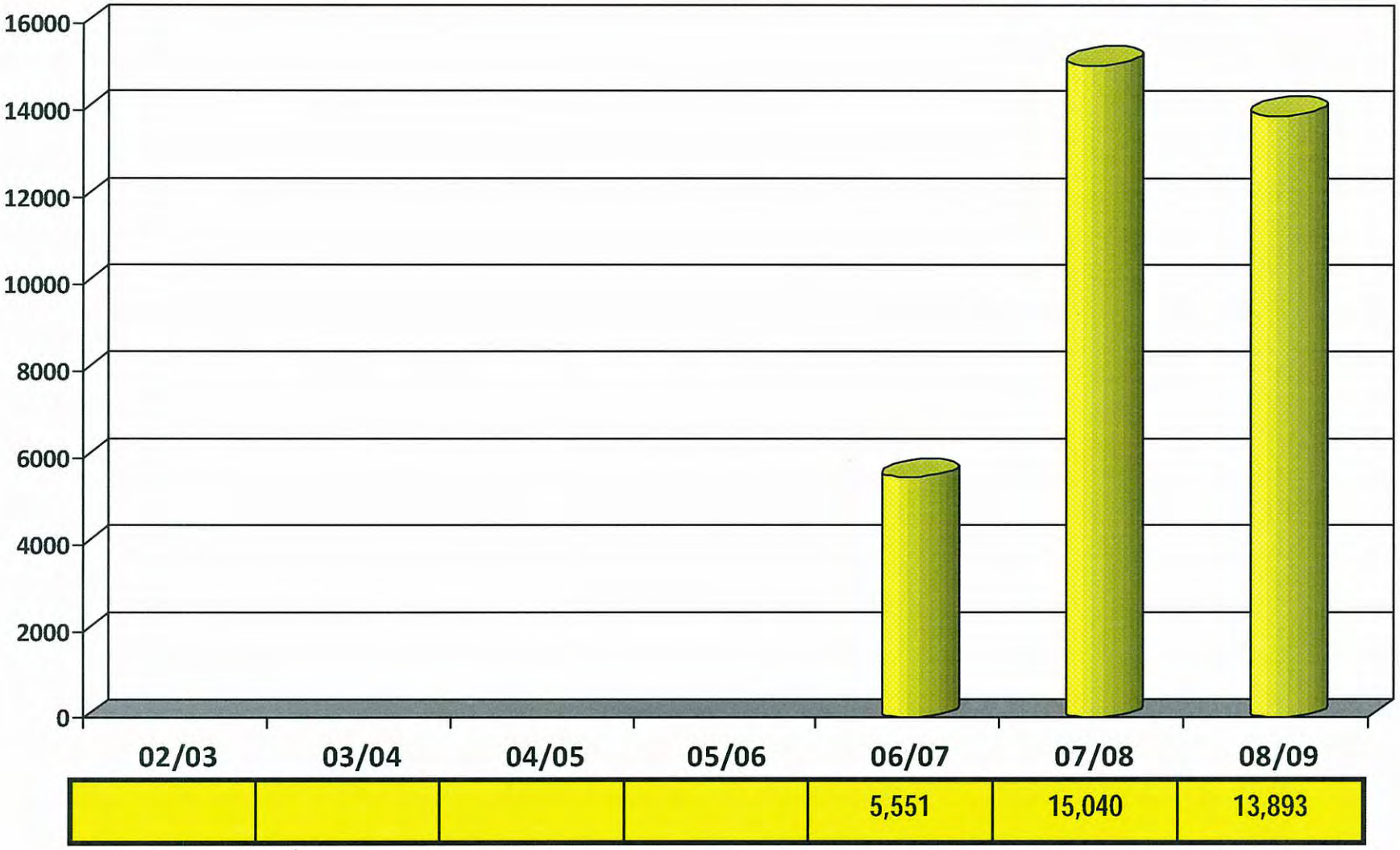


02/03	03/04	04/05	05/06	06/07	07/08	08/09
1,172	1,467	1,461	1,631	1,761	2,337	2,377

Petrol Pumps



Split Booms & Pole Pruners



Appendix 2

Calculating Spreadsheet for ABT

Calculating Spreadsheet for ABT

Engine Family Name or Test Group	Class	If Class I, initially produced prior to 8/1/03?	If Class I-B, I, or II, is fuel type natural gas?	FEL (g/kW-hr)	Load Factor	Power	Useful Life (Hours)	Production Volume (for domestic sale, excludes CA)	Applicable Standard (g/kW-hr)	HC + NOx or NMHC+NOx Credit Balance	Message

Program	Category	Credit Totals
Handheld	Class III and IV (HC + NOx)	0.0
	Class V (HC + NOx)	0.0
	Total Class III, IV, and V (HC + NOx)	0.0
Nonhandheld	Class I-A (HC + NOx)	0.0
	Class I-B (HC + NOx)	0.0
	Class I-B (NMHC + NOx)	0.0
	Class II (HC + NOx)	0.0
	Class II (NMHC+NOx)	0.0
	Total Class I-B and II (NMHC+NOx)	0.0
	Total Class I-A, I-B, and II (HC + NOx)	0.0
Nonhandheld - Early Reduction Credits	Class I (FEL < 14.8 g/kW-hr NMHC + NOx)	0.0
	Class I (FEL < 16.1 g/kW-hr HC + NOx)	0.0

Calculating Spreadsheet for ABT

FIELD	DESCRIPTION
Engine Family Name or Test Group	Enter the 12-character engine family name or test group name.
Class	Enter the Class category using the drop down menu. For nonhandheld engines, select Class I-A (< 66 cc); Class I-B (66 cc to 100 cc); Class I (> 100 cc but < 225 cc); or Class II (≥ 225 cc). For Handheld engines, select Class III (< 20 cc); Class IV (≥ 20 cc but < 50 cc); or Class V (≥ 50 cc).
If Class I, produced prior to 8/1/03? (Y/N)	If the engine is categorized as Class I, indicate whether production for the engine family was initiated prior to August 1, 2003. If so, the Phase 2 HC + NOx standard of 16.1 g/kW-hr applies starting on August 1, 2007. If the FEL for these engines is below the 16.1 standard prior to August 1, 2007, then Early Reduction Credits for these engines can be earned, based on the FEL and a standard of 20.5 g/kW-hr. See 64 FR 15215.
Fuel	Indicate whether the engines are fueled by Gasoline or Natural Gas, which are subject to HC + NOx and NMHC + NOx standards, respectively.
FEL (g/kW-hr)	Indicate the Family Emission Limit (FEL) that applies to the engine family.
Load Factor	Enter the applicable Load Factor, a constant dependent on the test cycle over which the engine is certified.
Power	Enter the engine's Modal Power Rating (kW-hr), which represents the maximum modal power of the certification test engine over the certification test cycle.
Useful Life (Hours)	Enter the applicable useful life of the engine family in hours.
Production Volume (production for domestic sale, excluding CA)	Enter the number of engines (domestic production) in the engine family that are eligible to participate in the handheld or nonhandheld engine ABT program. Do not include exported engines or engines that are introduced into commerce for use in California.
Applicable Standard (g/kW-hr)	This value is automatically determined based on the Class and Fuel type.
HC + NOx or NMHC+NOx Credit Balance	This value is calculated based on the production volume, FEL, standard, load factor, power, useful life, and any applicable adjustment factors.

Credit Summary (Handheld and Nonhandheld)

Model Year:	Manufacturer:
2009	PQA Example

Program/Category		Credit Balance	Credits to Average	Credits to Bank
Credit Transfers	Handheld - Class III, IV and V			0
	Nonhandheld NMHC + NOx			0
	Nonhandheld HC + NOx			0
Banked Credits	Handheld - Class III, IV and V *			0
	Nonhandheld NMHC + NOx			0
	Nonhandheld HC + NOx			0
Current MY Handheld	Total Class III, IV, and V	0		0
Current MY Nonhandheld	Total NMHC + NOx; Class I-B and II	0		0
	Total HC + NOx; Class I-A, I-B, and II	0		0
Current MY Nonhandheld - Early Reduction Credits for Class I	Total NMHC + NOx (FEL < 14.8 g/kW-hr); Class I	0		0
	Total HC + NOx (FEL < 16.1 g/kW-hr); Class I	0		0
GRAND TOTAL	**Averaged Balance****		0	
	Banked HC + NOx			0
	Banked NMHC + NOx			0

** Any carryover deficits for Class V engines should be adjusted to account for the payback rate of 1.1:1 for deficits carried over to the second or third model year (following the year in which they were accrued) or 1.2:1 for deficits carried over to the fourth model year. No adjustment is necessary for carryover deficits from the previous year as the payback ratio is 1:1. Note that Class V deficits may not accrue for more than two consecutive model years and that banking is not permitted for a model year in which a Class V deficit accrues. See 40 CFR 90.204(c)(2).*

***The Averaged Balance should not be above zero. Any remaining credits should appear in the total for either 'Banked HC + NOx' or 'Banked NMHC + NOx'. Note that a deficit in the Averaged Balance must be attributable to Class V engines and precludes the banking of any credits.*