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**A Comparison of International Animal  
Identification Programs**

by

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## A Comparison of International Animal Identification Programs

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### Introduction

Since discovery of a cow with Bovine Spongiform Encephalitis (BSE) in December of 2003, animal identification and traceability programs have become very important in the United States.<sup>2</sup> However, these programs and the concerns associated with them are not unique to the United States. Across the globe, countries with advanced livestock industries have implemented animal identification programs that allow for the traceability of their commercial animal herds. Generally, nations adopted these programs to accommodate concerns relating to the safety of the food supply that stem from the outbreaks of BSE, commonly known as mad cow disease, in Great Britain, Canada, Japan and the United States.<sup>3</sup> While many of these countries have not experienced cases of BSE within their own borders, the governments have decided to implement these programs to capture export opportunities and to restore faith in their domestic beef supply.<sup>4</sup>

As with many international issues that are addressed by the countries individually instead of on a global basis, the animal identification programs and their application varies widely between nations. This article discusses the programs that have been implemented by certain countries. Within this discussion, issues are addressed when information was available,<sup>5</sup> including a brief history of the program, its stated purpose, how the program addresses producer liability and confidentiality, and who bears the cost burden of the program's implementation.<sup>6</sup>

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<sup>2</sup> National Agricultural Law Center, Animal Identification Reading Room: Overview, available <http://www.nationalaglawcenter.org/assets/overviews/animalid.html>, see also Geoffrey S. Becker, *CRS Report for Congress, Animal Agriculture: Selected Issues For Congress*, January 31, 2007, p. 3, available at <http://www.nationalaglawcenter.org/assets/crs/RS22526.pdf>.

<sup>3</sup> Michael Roberts and Harrison Pittman, *Legal Issues In Developing an National Plan for Animal Identification*, National Agricultural Law Center, [http://www.nationalaglawcenter.org/assets/articles/roberts\\_animalid.pdf](http://www.nationalaglawcenter.org/assets/articles/roberts_animalid.pdf) (2004).

<sup>4</sup> Geoffrey S. Becker, *CRS Report for Congress: Animal Identification and Meat Traceability*, January 18, 2007, Summary, available at <http://www.nationalaglawcenter.org/assets/crs/RL32012.pdf>.

<sup>5</sup> The South American countries of Argentina and Brazil have implemented mandatory animal identification programs, but little information is available. The programs are designed to trace the animals from place of origin to slaughter.

<sup>6</sup> See generally, Roberts and Pittman *supra* note 2.

## Australia

The Australian animal identification program is known as the National Livestock Identification System (NLIS). It is administered by Meat & Livestock, Australia (MLA), and is used to identify Australia's cattle population. NLIS is a "permanent whole-life identification system that enables individual cattle to be tracked from property of birth to slaughter for food safety, product integrity, and market access purposes."<sup>7</sup> The program was implemented by Australia's individual states between January, 2002 and July, 2005.<sup>8</sup> Participation became mandatory throughout all of Australia when the last state fully implemented its NLIS program.<sup>9</sup> NLIS is designed to supplement and improve the tail tracking system that has been in place in Australia for over thirty years.<sup>10</sup> If producers participate at a minimal level, MLA will simply be able to track animal movement.<sup>11</sup> With expanded use of scales and coordination with other technologies, the producers will be able to use the additional data to become better and more efficient managers of their herds.<sup>12</sup>

Australia's cattle tracking system identifies the animals with machine-readable radio frequency identification (RFID) devices that are enclosed in an ear tag or an ingestible rumen bolus.<sup>13</sup> Each owner is issued a Property Identification Code (PIC) that is placed on a microchip in the RFID device and that PIC stays with the animal throughout its life.<sup>14</sup> As cattle move through the production chain, the RFID device is read and the new owner's PIC is linked to the animal.<sup>15</sup> When the ownership of the animal changes, the transactional information is logged into a secure central NLIS database that is maintained by MLA.<sup>16</sup> This system is not only designed to be able to track the animals in the event of

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<sup>7</sup> This statement can be found in many, if not all, of the MLA or NLIS official statements and publications relating to the Australian animal identification program. It appears as if the statement serves as a mantra for the program on a national level. An example can be found at [www.nlis.com.au](http://www.nlis.com.au).

<sup>8</sup> NLIS Feedlot Equipment Guide § A2 "When is NLIS being Introduced?" at <http://www.mla.com.au/NR/rdonlyres/E20DD6B1-DB13-4E4B-BF1C-2B32E8BB957B/0/FeedlotreaderguideVersion17.pdf>. (last visited Jan. 9, 2007) (on file with author).

<sup>9</sup> *NLIS--Australia's System for Livestock Identification and Traceability*, at <http://www.mla.com.au/TopicHierarchy/InformationCentre/PublicationsDatabase/PublicationDetails.htm?publd=1488> (last visited Jan. 5, 2007).

<sup>10</sup> *NLIS--Australia's System for Livestock Identification and Traceability*, at <http://www.mla.com.au/TopicHierarchy/InformationCentre/PublicationsDatabase/PublicationDetails.htm?publd=1488> (last visited Jan. 5, 2007).

<sup>11</sup> *Equipment Compatibility Guide for Producers*, at <http://www.mla.com.au/TopicHierarchy/InformationCentre/PublicationsDatabase/PublicationDetails.htm?publd=149> (last visited Jan. 9, 2007).

<sup>12</sup> *Id.*

<sup>13</sup> *NLIS Feedlot Equipment Guide* § A1 "What is NLIS?" at <http://www.mla.com.au/NR/rdonlyres/E20DD6B1-DB13-4E4B-BF1C-2B32E8BB957B/0/FeedlotreaderguideVersion17.pdf> (last visited Jan. 9, 2007).

<sup>14</sup> *Id.*

<sup>15</sup> *Id.*

<sup>16</sup> *Id.*

a disease outbreak, but to also protect consumers in the event of a residue incident if used in conjunction with post-slaughter tracking.<sup>17</sup>

The cost of the NLIS system appears to be initially borne by the livestock producer.<sup>18</sup> The state, however, does provide some support to help the producers defer some of the initial expenses.<sup>19</sup> The MLA maintains a single database with the subject information funded through a producer checkoff, and the producers themselves pay for additional equipment.<sup>20</sup> The equipment necessary to participate in the NLIS includes a reader, software, tags or boluses, and applicators.<sup>21</sup> These readers have prices that range between \$760 and \$53,820, depending on the options, installation, features, and volume capacity of the individual units.<sup>22</sup> Software prices begin at \$190 and increase with usage and the volume of the data processed.<sup>23</sup> The individual tags and boluses cost somewhere in the range of \$2.70 and \$4.50 per animal.<sup>24</sup> The applicators cost between \$15 and \$120.<sup>25</sup> Electronic weight scales and data collectors are also available as optional equipment<sup>26</sup> and range from \$740 to \$2880, also depending on features, volume capacity, and options.<sup>27</sup> The individual state governments have decided to support the producers by assisting with these expenses at varying levels because of the public benefits associated with the traceable food supply.<sup>28</sup> The states have also adopted a cost-sharing type agreement that would help the individual producers defer the cost of quarantine and destruction of their herd in the event of a disease outbreak.<sup>29</sup> To this end, livestock producers are provided a type of government sponsored “insurance” if a disease or other catastrophic condition is traced back to an individual herd and the producer suffers economic loss associated with the destruction of the animals.<sup>30</sup>

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<sup>17</sup> *Id.*

<sup>18</sup> See *NLIS Feedlot Equipment Guide* § D “Equipment Specifications” at <http://www.mla.com.au/NR/rdonlyres/E20DD6B1-DB13-4E4B-BF1C-2B32E8BB957B/0/FeedlotreaderguideVersion17.pdf> (last visited Jan. 9, 2007).

<sup>19</sup> Glen T. Tonsor and Ted C. Schroeder, *Australia’s Livestock Identification System: Implications for United States Programs* (2004), [http://www.agmanager.info/events/risk\\_profit/2004/Schroeder.pdf](http://www.agmanager.info/events/risk_profit/2004/Schroeder.pdf).

<sup>20</sup> Glen T. Tonsor, Ted C. Schroeder, *Lessons for the U.S. Beef Industry Learned from the Australian National Livestock Identification System*, (2006), <http://www.lmic.info/memberspublic/animalID/fs13.pdf>.

<sup>21</sup> *Id.*

<sup>22</sup> *Id.*

<sup>23</sup> *Id.*

<sup>24</sup> *General FAQs About NLIS (Cattle)*, at <http://www2.dpi.qld.gov.au/nlis/15103.html> (last visited Feb. 6, 2007).

<sup>25</sup> *Id.*

<sup>26</sup> See *NLIS Feedlot Equipment Guide* § D “Equipment Specifications” at <http://www.mla.com.au/NR/rdonlyres/E20DD6B1-DB13-4E4B-BF1C-2B32E8BB957B/0/FeedlotreaderguideVersion17.pdf> (last visited Jan. 9, 2007); see Tonsor *supra* 17.

<sup>27</sup> *Id.*

<sup>28</sup> See Tonsor *supra* note 17.

<sup>29</sup> *Id.*

<sup>30</sup> *Id.*

## Canada

Canada's animal identification program is administered by the Canadian Cattle Identification Agency (CCIA).<sup>31</sup> This organization, which is led from within the Canadian cattle industry, is designed to promote the consumption of beef by providing the industry with a traceback mechanism that helps contain disease while promoting food safety.<sup>32</sup> Participation for cattle and bison is mandatory throughout each of the Canadian provinces.<sup>33</sup> A steering committee is in place to help access how to best spread the CCIA model to other species groups.<sup>34</sup>

Once an animal leaves its herd of origin, an ear tag with a visible number and a corresponding RFID device are attached that remains with the animal until the point of export or harvest.<sup>35</sup> The tags are issued through a national tag distribution network that records their distribution into a national database.<sup>36</sup> The use of the RFID technology became mandatory on September 1, 2006.<sup>37</sup> At present, the CCIA is developing additional applications for their identification program, including premises identification, lot identification, full animal movement tracking, and enhanced record keeping for age verification and carcass information.<sup>38</sup>

All of the herd of origin information is maintained within the national database and is only accessible to Canadian Food Inspection Agency (CFIA) officials in the event of an animal health emergency.<sup>39</sup> Others desiring access to the privately maintained CCIA database must submit a formal request and demonstrate a valid and legitimate purpose for the requested information.<sup>40</sup> In the event of an emergency, the CFIA has full regulatory enforcement authority.<sup>41</sup> Liability is not automatically imposed upon the producer of the animal's herd of origin because the CFIA will use scientific methods

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<sup>31</sup> See *The Canadian Cattle Identification Agency: A World Leader in Animal Identification*, at <http://www.canadaid.com/151520%20InsertSheets.pdf> (last visited Jan. 9, 2007).

<sup>32</sup> *Id.*

<sup>33</sup> Jill E. Hobbs, *Liability and Traceability in Agri-Food Supply Chains*, [http://library.wur.nl/frontis/quantifying\\_supply\\_chain/07\\_hobbs.pdf](http://library.wur.nl/frontis/quantifying_supply_chain/07_hobbs.pdf) (last visited Feb. 11, 2007) (on file with author).

<sup>34</sup> *Legislative Framework and Current AAFC Policy Regarding Identification and Traceability of Livestock*, [http://www.equestrian.ca/pdf\\_files/equine\\_id/BKGRND\\_LEGISLATIVE\\_FRAME.pdf](http://www.equestrian.ca/pdf_files/equine_id/BKGRND_LEGISLATIVE_FRAME.pdf)

<sup>35</sup> *Animal ID System Needed to Thwart Mad Cow, Says Report*, CSPI Newsroom, March 21, 2005, <http://www.cspinet.org/new/200503211.html>.

<sup>36</sup> *Id.*

<sup>37</sup> CCIA News, *RFID Tagging Date Arrives*, Fall 2006.

<sup>38</sup> See *Animal ID System Needed to Thwart Mad Cow, Says Report*, *supra* note 32.

<sup>39</sup> *Id.*

<sup>40</sup> *Frequently Asked Questions*, <http://www.canadaid.ca/About/FAQs.shtml#confidentiality> (last visited Jan. 9, 2007).

<sup>41</sup> See *Animal ID System Needed to Thwart Mad Cow, Says Report*, *supra* note 32.

to identify the true source of the problem.<sup>42</sup> An inspection of the carcass occurs at the point of slaughter, and if there is a prior contaminate or toxin, the animal can be traced back to the herd of origin if necessary.<sup>43</sup>

Initial funding for the CCIA was provided by the Beef Development Fund, Agriculture and Agri-Food Canada. The CFIA and the provincial governments have supplied additional support,<sup>44</sup> yet some cost burden is still placed upon the producer or livestock handler.<sup>45</sup> The CCIA has approved RFID tags that are manufactured by seven different companies.<sup>46</sup> Information about the precise costs of the tags is not available on the CCIA website but is projected to be about \$2.00 per animal.<sup>47</sup> The same limitations on information availability also apply to readers, but there are several makes and models that have been approved for use under the CCIA program.<sup>48</sup> One program that will help defer some of the costs is the Canadian Radio Frequency Identification (CRFID) Reader Program, which reimburses an eligible participant for 50% of the actual costs of a RFID reader up to \$880 for a handheld reader, or \$2,650 for a panel reader.<sup>49</sup> Eligible participants in this program are slaughter and processing plants, sales barns/stockyards and/or auction markets, veterinarians, veterinarian schools and universities, pathology labs (private), mobile butchers, dead stock operators, commercial livestock truckers, commercial feedlots, and grazing co-operatives/community pastures.<sup>50</sup> Notably absent from this list of eligible program participants are individual producers who do not use feedlots of co-operative/community pastures.<sup>51</sup>

## European Union

The member nations of the European Union (EU) have adopted a series of regulations relating to the identification and traceability of livestock and animals within their territories.<sup>52</sup> Separate sets of

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<sup>42</sup> *Liability and Responsibility*, [http://www.cansheep.ca/english/id\\_liability.htm](http://www.cansheep.ca/english/id_liability.htm) (last visited Jan. 9, 2007).

<sup>43</sup> *About RFID: Liability and Responsibility*, [http://www.canadaid.com/About/#Liability\\_and\\_Responsibility](http://www.canadaid.com/About/#Liability_and_Responsibility) (last visited Jan. 9, 2007).

<sup>44</sup> *Frequently Asked Questions*, <http://www.canadaid.ca/About/FAQs.shtml#paying> (last visited Jan. 9, 2007).

<sup>45</sup> CRS Report, *Animal Identification and Meat Traceability*, March 7, 2006, available at <http://www.nationalaglawcenter.org/assets/crs/RL32012.pdf>

<sup>46</sup> *Tags and Technology*, [http://www.canadaid.ca/About/tags\\_tech.shtml](http://www.canadaid.ca/About/tags_tech.shtml) (last visited Jan. 9, 2007).

<sup>47</sup> *Id.*

<sup>48</sup> *See Id.*

<sup>49</sup> *Canadian Radio Frequency Identification Reader Program*, [http://www.agr.gc.ca/fd\\_al/crfid-pclirf/index\\_e.php](http://www.agr.gc.ca/fd_al/crfid-pclirf/index_e.php).

<sup>50</sup> *Id.*

<sup>51</sup> *See Id.*

<sup>52</sup> *See Identification—Introduction*, [http://ec.europa.eu/food/animal/identification/index\\_en.htm](http://ec.europa.eu/food/animal/identification/index_en.htm) (last visited Feb. 6, 2007)

regulations and protocols have been adopted by species, such as bovine,<sup>53</sup> equine, porcine, ovine and caprine, and pets.<sup>54</sup> While most of the EU efforts have focused on the traceability of beef, efforts have been made to implement programs for other species.<sup>55</sup> It is the objective of each of these sets of regulations to monitor the movement of these animals for veterinary purposes and to control the spread of infectious disease.<sup>56</sup> Yet additional purposes are enumerated for identification. The bovine or ovine and caprine regulations identify additional purposes including the ability to trace beef for public health purposes and monitor premiums as part of the common organization of the market in beef and veal.<sup>57</sup> The ovine and caprine regulations also have the stated purpose of monitoring the premiums in the market and controlling the common agricultural policy.<sup>58</sup>

The actual identification and traceability varies by species.<sup>59</sup> Common among each of the species is a requirement calling for the maintenance of movement records in a national database, regardless of whether the animals are being transported or moving on foot, and records maintained by each farm regarding its holdings.<sup>60</sup> With cattle, horses, sheep, goats, and pets, the animals must also be accompanied by movement documents, sometimes referred to as an animal passport, that verifies the movement history and health of the animal(s).<sup>61</sup> Cattle must also be tagged with two ear tags containing that individual animal's identification number and country of origin.<sup>62</sup> Pigs can be marked with ear tags or tattoos.<sup>63</sup> Sheep and goats must be double-marked, either with two ear tags or with one ear tag and a tattoo.<sup>64</sup>

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<sup>53</sup> Regulation (EC) No 1760/2000, 17 July 2000, available at [http://eur-lex.europa.eu/LexUriServ/site/en/oj/2000/l\\_204/l\\_20420000811en00010010.pdf](http://eur-lex.europa.eu/LexUriServ/site/en/oj/2000/l_204/l_20420000811en00010010.pdf) (last visited Jan. 9, 2007).

<sup>54</sup> *Id.*

<sup>55</sup> Jeanette Marchant, *Secure Animal Identification and Source Verification*, p.9, [http://www.optibrand.com/uploadedfiles/Animal\\_ID.pdf](http://www.optibrand.com/uploadedfiles/Animal_ID.pdf) (last visited Feb. 6, 2007).

<sup>56</sup> See the webpage provided for each species at *supra* note 49, [http://www.agr.gc.ca/fd\\_al/crfid-pclirf/index\\_e.php](http://www.agr.gc.ca/fd_al/crfid-pclirf/index_e.php).

<sup>57</sup> *Identification of Bovine Animals*, [http://ec.europa.eu/food/animal/identification/bovine/index\\_en.htm](http://ec.europa.eu/food/animal/identification/bovine/index_en.htm) (last visited Jan. 9, 2007)

<sup>58</sup> *Identification of Ovine and Caprine Animals*, [http://ec.europa.eu/food/animal/identification/ovine/index\\_en.htm](http://ec.europa.eu/food/animal/identification/ovine/index_en.htm) (last visited Jan. 9, 2007).

<sup>59</sup> See the webpage provided for each species at *supra* note 49, [http://www.agr.gc.ca/fd\\_al/crfid-pclirf/index\\_e.php](http://www.agr.gc.ca/fd_al/crfid-pclirf/index_e.php).

<sup>60</sup> *Id.*

<sup>61</sup> *Id.*

<sup>62</sup> *Identification—Introduction*, *supra* note 49.

<sup>63</sup> *Identification of Porcine Animals*, [http://ec.europa.eu/food/animal/identification/porcine/index\\_en.htm](http://ec.europa.eu/food/animal/identification/porcine/index_en.htm) (last visited Jan. 9, 2007).

<sup>64</sup> *Identification of Ovine and Caprine Animals*, [http://ec.europa.eu/food/animal/identification/ovine/index\\_en.htm](http://ec.europa.eu/food/animal/identification/ovine/index_en.htm) (last visited Jan. 9, 2007).

The EU regulations leave the implementation and control of the animal identification systems to the individual EU member nations, so long as they comply with the mandatory EU regulations.<sup>65</sup> For example, in Great Britain, the British Cattle Tracking System is administered by the British Cattle Movement Service, that scans farmer's applications for cattle passports and registers cattle movement.<sup>66</sup> In 2001, this system contained information on 98% of the cattle herd in Great Britain.<sup>67</sup>

The regulations setting out the identification programs address the issue of cost and cost sharing on a limited basis. The bovine identification regulations allow the member states to pass on the costs of the ear tags, computerized databases, animal passports, and individual registers to the "keepers," or people responsible for the care of the cattle within the beef sector.<sup>68</sup> The issue of cost and its allocation is not discussed or addressed in the regulations set out for equine,<sup>69</sup> porcine,<sup>70</sup> ovine and caprine,<sup>71</sup> or pets.<sup>72</sup>

## Japan

Following the discovery of a cow with BSE in 2001, Japan's Ministry of Agriculture, Forestry, and Fisheries launched a project to numerically identify beef and the farm on which it was raised.<sup>73</sup> The system, which is administered by the Japanese government, requires the tracking of the animals from the feedlot to the packing plant and through to the retail outlet.<sup>74</sup> All beef and dairy cattle are required to be tagged, and the movements are logged into a database that is maintained by the government.<sup>75</sup> The database contains information on the individual animal's date of birth, sex, breed, name and

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<sup>65</sup> Marchant, *supra* note 52.

<sup>66</sup> *Id.*

<sup>67</sup> *Id.* at 9.

<sup>68</sup> EC 1760/2000, Article 9, p.6, available at [http://eur-lex.europa.eu/LexUriServ/site/en/oj/2000/l\\_204/l\\_20420000811en00010010.pdf](http://eur-lex.europa.eu/LexUriServ/site/en/oj/2000/l_204/l_20420000811en00010010.pdf)

<sup>69</sup> See 93/623/EEC, available at [http://europa.eu/eur-lex/en/consleg/pdf/1993/en\\_1993D0623\\_do\\_001.pdf](http://europa.eu/eur-lex/en/consleg/pdf/1993/en_1993D0623_do_001.pdf) (last visited Jan. 9, 2007).

<sup>70</sup> See 92/102 EEC, available at [http://europa.eu/eur-lex/en/consleg/pdf/1992/en\\_1992L0102\\_do\\_001.pdf](http://europa.eu/eur-lex/en/consleg/pdf/1992/en_1992L0102_do_001.pdf) (last visited Jan. 9, 2007).

<sup>71</sup> See Council Regulation (EC) 21/2004.

<sup>72</sup> See Council Regulation (EC) 998/2003, available at [http://eur-lex.europa.eu/LexUriServ/site/en/oj/2003/l\\_146/l\\_14620030613en00010009.pdf](http://eur-lex.europa.eu/LexUriServ/site/en/oj/2003/l_146/l_14620030613en00010009.pdf) (last visited Jan. 9, 2007).

<sup>73</sup> Marchant, *supra* note 52.

<sup>74</sup> Roxanne Clemens, *Meat Tracability in Japan*, Review Paper IAR 9:4:4-5, Agricultural Marketing Resource Center, (November 2003), available at <http://www.agmrc.org/NR/rdonlyres/90D9F247-84B7-4E10-9480-0C88153BF6B5/0/meattraceability.pdf>.

<sup>75</sup> CRS Report RL32012, *Animal Identification and Meat Traceability*, March 7, 2006, p. 13, available at <http://www.nationalaglawcenter.org/assets/crs/RL32012.pdf>

address of the owner, location of fattening, date fattening began, and date of slaughter.<sup>76</sup> In the event of a disease outbreak, the database is designed to allow government officials to identify the living and slaughtered cohorts of the diseased animal or animals.<sup>77</sup>

This consumer traceback program has been implemented in an attempt to restore consumer confidence in Japan's domestic beef supply.<sup>78</sup> Japanese consumers equate knowing the name and address of the animal's owner to actually knowing that person.<sup>79</sup> Furthermore, if the farmer is willing to put his or her name on it, the perception is that the beef must be a good and safe product.<sup>80</sup> In some instances, the program allows the retail purchaser of a beef product to enter a ten digit number that brings up the breed of the animal, the beef's origin, and the result of the Ministry's BSE test.<sup>81</sup> This retail trace back capability can be found with beef muscle meat but not trimmings, ground beef, processed products, or offals.<sup>82</sup> The information on the muscle meat that can be viewed by the consumer may be for the individual animal or based on a wholesale lot.<sup>83</sup>

## Conclusion

A common theme that runs through each of these programs is the primary objective to preserve the safety and integrity of a meat supply that is part of a far-reaching marketplace. The meat and livestock industry are requiring more information to insure that a product is supplied that meets consumers' demands. Mechanisms and systems for identification vary greatly between the countries, showing that there is more than one possible means of achieving animal identification goals. When it comes to the costs of the programs, it appears that livestock producers are the ones who generally bear the expense. However, several countries have developed support programs to defer some of that burden. Regardless of whether the stated objective of the animal identification program is to increase consumer confidence through greater information, as in Japan, or gain greater access to international markets, such as with the Australian program, the ultimate goal of a safe and wholesome meat supply behind the various approaches to animal identification rings true across international borders.

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<sup>76</sup> Clemens *supra* note 73.

<sup>77</sup> *Id.*

<sup>78</sup> *Id.*

<sup>79</sup> *Id.*

<sup>80</sup> *Id.*

<sup>81</sup> Marchant, *supra* note 52 at 10.

<sup>82</sup> Clemens *supra* note 73.

<sup>83</sup> *Id.*