

**JUSTIFICATION AND APPROVAL FOR  
USE OF OTHER THAN FULL AND OPEN COMPETITION  
dated July 31, 2014**

1. Contracting Activity.

Department of Veterans Affairs  
Office of Acquisition Operations  
Strategic Acquisition Center  
10300 Spotsylvania Avenue, Suite 400  
Fredericksburg, VA 22408

2. Description of Action.

This Justification and Approval (J&A) is submitted to issue a single-award Blanket Purchase Agreement (BPA) for research animal Feed and Bedding (F&B) to Harlan-Teklad, Indianapolis, Indiana (referred to as Harlan in this document). The anticipated issue date is October 2014.

3. Description of Supplies/Services.

Approximately seventy-five (75) Department of Veterans Affairs (VA), Veterans Health Administration (VHA) facilities throughout the United States (US) are conducting research critical to the health of our veterans for treatments of chronic diseases such as cancer, leukemia, and diabetes (Figure 1). The VHA supports the use of animals in this research following ethical and legal standards and with consideration of the animals' treatment. These facilities are using mice, rats, hamsters, gerbils, guinea pigs, rabbits, poultry, primates, small ruminants, swine, cats, canines, frogs, and chinchillas in their research, and they have a recurring need for F&B for these animals.

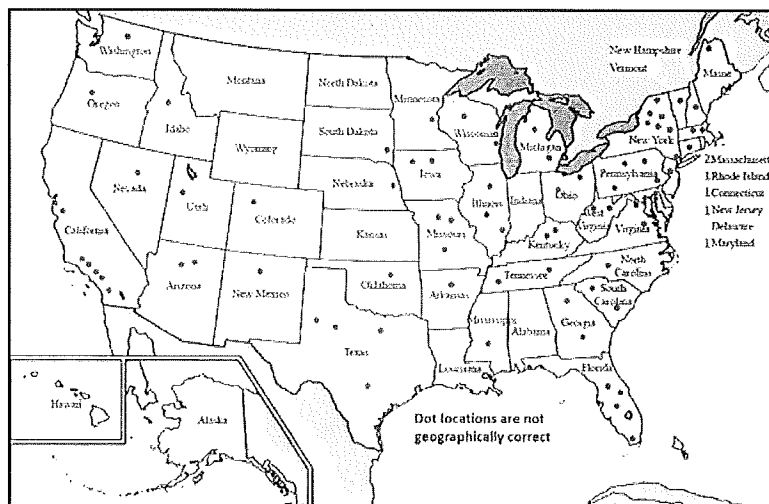


Figure 1- VHA Facility Locations (City, state)

The ability to replicate research results is fundamental for good science. One fundamental tenet is to control all variables except those being studied. To meet this requirement, the microbiologic and genetic characterization of laboratory animals has become increasingly well-

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defined over the years. Variations and manipulations of the animals' environment are also kept to a minimum. F&B are important environmental factors that affect reproduction, growth, disease, and responses to experimental manipulation in laboratory animals, ultimately influencing study results. VHA research facilities are currently using approximately forty specific animal feed products and fifteen bedding products supplied by Harlan in ongoing research (Appendices A and B). Changing this F&B would introduce variation into studies that will impact results.

Industry practice is for F&B manufacturers to sell their products to distributors, who then sell to purchasers from pharmaceutical companies, independent research laboratories, and government agencies (e.g., VHA, National Institutes of Health (NIH)). Harlan is unique in that it uses its own distribution system (Figure 2). The distributor centers are dispersed throughout the US.

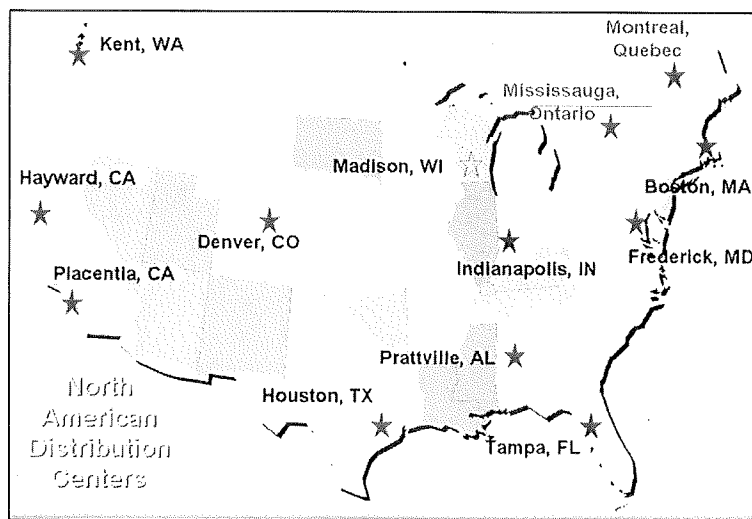


Figure 2 - Harlan North American Distribution Centers

Harlan's distributors store a large amount of multiple F&B products at their warehouses for eventual purchase and delivery to customers. Because Harlan manufactures and distributes products that can be purchased in larger quantities, the VA is capable of getting volume pricing and the associated savings. Shipping full truckloads of a product to a single distribution point saves transportation costs and ultimately reduces the product price. (Transportation was found to be a significant cost driver during market research, and in some cases, exceeds the cost of products if purchased in small numbers.)

This J&A authorizes and approves the issue of a firm-fixed price single-award BPA for research animal F&B to Harlan-Teklad. Appendices A and B provide the products that will be available for award under this BPA. The performance period for this contract is one base-year and four one-year options. Each delivery order will specify a location and delivery date for items ordered under this BPA. The total estimated value of the proposed action is \$4,853,312, including options.

#### 4. Authority.

The statutory authority permitting other than full and open competition is 41 USC.253(c)(1) as implemented by the Federal Acquisition Regulation (FAR) Subpart 6.302-1 entitled, "Only One

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Responsible Source and No Other Supplies or Services Will Satisfy Agency Requirements," under the application of 6.302-1(c), "Application for brand-name descriptions."

### 5. Rationale Supporting Use of Authority Cited Above.

Diets and bedding must be an exact match to existing diets and bedding to ensure all variables are controlled except those being studied. This is exacerbated if the diets are subjected to different processing at the plants, such as irradiation. Overall the driving factor for sole source acquisition(s) is the impact that introducing different F&B into each laboratory study will have on study results. Researchers are using specific F&B in ongoing studies, and changing these "constants" will impact results. While the impact of changing feed is easily understandable, bedding is another variable with significant implications for research results due to the animal's close contact on a continuous basis. Researchers have noted that varying animal bedding impacts the animal's behavior in a laboratory setting.<sup>1</sup> Further, changing F&B will make it very difficult to compare current data with older studies and build on previous study results, resulting in the loss of, and investment in, scientific research to date that would not be recovered through competition.

Harlan is currently providing more than 50% of the VHA research animal F&B products on a sole source basis. They are uniquely qualified to provide research animal F&B and have been part of the global research animal scientific community for over 82 years. Harlan conducts independent research on the impact of F&B on animal health, and publishes as well as reviews published literature on F&B research studies. This knowledge is transferred to their research animal F&B products.

Harlan began as a rodent breeder, and has been manufacturing lab animal diets for over 45 years. Harlan is an active participant in many national and international profession organizations committed to the welfare of animals used in research. Harlan uses its unique experience as a breeder and seller of laboratory animals to provide F&B products specifically designed for research applications.

VHA facilities are using specific Harlan feed in ongoing studies, which cannot change without impacting study results. Harlan employs numerous full-time nutritionists dedicated to the development of research animal feeds. These diets are customized to the nutritional needs of animals and conditions supporting growth, reproduction, sustainment, and maintenance. Feed contains natural ingredients with a variety of nutritive and non-nutritive components. Examples of the latter include phytoestrogens, nitrosamines, phytosterols, and antioxidants. Both nutrients and non-nutrients can have significant effects on research. By combining specific feed formulations with rigorous ingredient control, Harlan minimizes the variation in both nutrient and non-nutrient levels. Harlan's fixed formula diets contain the same ingredients, in the exact same quantities, in every batch of diet produced resulting in consistent diets for research.

Harlan employs a breadth of quality assurance programs primarily related to the operation and effectiveness of quality management within the laboratory, including ISO 9001:2008, Quality Management Systems - Requirements; ISO 17025, Good Laboratory Practice (GLP), Good Manufacturing Practice (GMP); and ISO/IEC 17025, General Requirements for the Competence of Testing and Calibration Laboratories. Harlan also follows strict NIH standards for research animal feed and bedding. These standards comply with the VA's technical requirements, and they will be imposed on Harlan's BPA.

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<sup>1</sup> Studies are located on the US National Library of Medicine, NIH site: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3508179>. See also referenced studies.

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Harlan has used its extensive experience to implement strict manufacturing standards and QA processes to guarantee the purity and consistency of ingredients needed for research animal feed. Ingredients are only sourced from approved and proven suppliers. Core grains are analyzed prior to uploading into the plant, and once accepted, ingredients are processed through a closed system during manufacture through packaging. Key manufacturing systems and control points are validated to ensure accuracy in the manufacturing process. Harlan retains a sample for every bag of diet that is produced and retains these for eighteen months. Lot samples are used for ingredient and contaminant screening and testing conducted in-house and by independent laboratories. Feed is irradiated at the plants to destroy bacteria. Nutrients susceptible to radiation are fortified to ensure that nutrient levels are not diminished in the finished product. Nutrients are also fortified to survive sterilization by autoclaving (used to destroy infectious and parasitic organisms) at the research facility. Contaminants such as pesticides, heavy metals and microbiologicals are controlled to ensure that harmful components do not exceed maximum levels considered safe by the FDA. Finished product testing is used to assay ingredients to ensure that the diet formulation does not fall below the level of nutrition stated on the label.

All research bedding products provided by Harlan follow strict NIH standards. These ensure that contamination from external sources such as pest and rodent infestation, pesticides, chemicals, and other contaminants does not occur and toxins do not exceed acceptable limits during manufacture, storage and delivery. Harlan manufactures paper, hardwood and cob bedding products through its Diamond Star (founded in 1979) using the same rigor as its feed production processes.

As discussed in section 3, manufacturers only sell their F&B products to distributors, with the exception of Harlan with their own distribution system. Harlan is a distributor of wood bedding manufactured by P.J. Murphy and American Excelsior Corp.; and paper bedding manufactured by the laboratory division of Healthy Pet®. Harlan also distributes cob and wood bedding products made by Green Products Inc., Conrad, Iowa.

- Healthy Pet® has over 20 years' experience manufacturing cellulose bedding specifically designed for the research laboratory. Their bedding products are manufactured under strict controls to minimize research study variables.
- Green products, founded in 1947, uses its process for use in its cob-based products, developed after extensive research, development and testing.
- P.J. Murphy was founded in 1895. It uses either aspen or a blend of beech, birch and maple to manufacture its SaniChips® products. Both varieties have the same exact specifications and characteristics. P.J. Murphy uses wood sources proven to be of high quality, and uses only closed-van trailers to transport hardwoods from sawmills to their production facilities. At all times throughout the process, they maintain a closed system to avoid contamination.
- American Excelsior Corp. was founded 125 years ago. Harlan is supplying its aspen bedding product.

Harlan imposes its strict QA processes to its F&B distributors to ensure that the product quality is maintained to the delivery destination. Storage facilities are controlled for temperature and humidity. Storage facilities are inspected and maintained by independent pest control

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companies. Drivers are trained and certified in industry practices. The trucks used to transport products do not carry materials or live animals that could contaminate diets and interrupt research studies. As part of its ISO 9001:2000 program, Harlan performs a detailed inspection of its distribution centers at least once per year.

Harlan and its distribution centers are inspected at least yearly for conformance to F&B standards for manufacturing, storage and distribution by the NIH. Representatives from the VA plan to participate in joint inspections with NIH, and to perform individual inspections. NIH is currently sharing its inspection results with the VA.

### 6. Efforts to Obtain Competition.

The VA intends to issue a notice via the Government Point of Entry (GPE) as required by FAR Subpart 5.2. In response to this notice, all responsible sources will be given the opportunity to submit a capability statement, proposal, or quotation, which shall be considered by the agency.

### 7. Determination of Price Reasonableness.

Fair and reasonable pricing is anticipated based upon commercial published prices and the fact that all items being procured are commercial items; however, it is the responsibility of each contracting officer using the authority permitted under this Class J&A to evaluate and document price reasonableness for each contract action valued in excess of the micro-purchase threshold.

### 8. Market Research.

Extensive market research was conducted from October 2013 to 2014 including web searches, review of manufacturer, professional organization web sites, company marketing materials; e-mails, phone calls, and meetings. A request for Information (RFI) was posted on Federal Business Opportunities (FBO), December 21, 2013 and closed January 31, 2014.

Eight (8) responses were received from the companies listed below. One-on-one discussions (industry day) were conducted with these companies on March 21, 2014.

- Feed Manufacturers
  - Harlan-Teklad, Inc., Indianapolis, Indiana (also supplies bedding) (large business)
  - Purina Lab Diet, St. Louis, Missouri (large business)
- Bedding Manufacturers
  - The Andersons, Maumee, Ohio, (cob and paper bedding) (large business)
  - Biofresh, Ferndale, Washington (Paper- cellulose from pulp) (large business)
  - Fibercore, Cleveland, Ohio, (Paper) (small business)
  - P.J. Murphy Forest Products, Montville, NJ (Wood by-products)(Large business)
- Feed Distributors
  - AYOTA, San Diego, California, feed for Canine (Woman-owned small business (WOSB))
  - Legend and White Animal Health Corporation, Lincolnshire, Illinois, feed for canine, feline, guinea pigs, rabbits, gerbils, hamsters , rats and mice, poultry and frogs (WOSB)

Market research revealed that VHA facilities are currently procuring research animal feed manufactured primarily by Harlan Teklad and Purina Lab Diet, St. Louis, Missouri. Several VHA

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facilities are buying small amounts of feed produced by Dyets, Inc., Mazuri and BioServ. VHA facilities are currently procuring research animal bedding provided by Harlan, The Andersons, Shepherd Specialty Papers, P.J. Murphy Forest Products, Biofresh, BioServ, NEPCO, Fibercore, Ancare, Innovive and Zupreem bedding. Each bedding manufacturer has its own products consisting of variations of materials (e.g., wood, paper, cob). Unlike Harlan, Purina and bedding manufacturers sell their products directly to independently-owned distributors. The distributors are dispersed throughout the US. Each supplies commodities in its unique geographic region. Distributors do not cross regions. Many distributors are small businesses or woman-owned small businesses. Few distributors service multiple US states or VHA facilities, and market research indicated that the spend rate for individual distributors is too small (approximately \$1,000 per month) to warrant separate, strategic acquisitions.

During one-on-one exchanges, Harlan and Purina indicated that they are following industry standards based on years of research, as well as standards imposed on them by NIH. The VA coordinated with the local NIH program office procuring animal F&B, and discovered that in addition to Harlan and Purina, NIH and VA are using many of the same bedding suppliers/distributors. As a result of these exchanges, the VA has determined that NIH standards will be used for VA procurements. Further, VA and NIH have agreed to conduct concurrent facility inspections, and VA representatives will serve on an NIH committee of senior veterinarians specializing in F&B.

A search of the following web sites produced no results for research animal F&B under North American Industry Classification System (NAICS) codes 311119, Other Animal Food Manufacturing and 311111, Dog and Cat Food Manufacturing.

- Excess from other agencies (FAR Subpart 8.1) - [GSAXcess.gov](http://GSAXcess.gov)
- Federal Prison Industries, Inc. (FAR Subpart 8.6) - <http://www.unicor.gov>
- Procurement List maintained by the Committee for Purchase From People Who Are Blind or Severely Disabled (FAR Subpart 8.7) - <http://www.abilityone.gov/>
- Federal Supply Schedule - <http://www.fss.va.gov/>

A search of GSA Advantage - <https://www.gsaadvantage.gov/> - discovered multiple Bioserv products under "animal foods (research diets)" and "animal enrichment devices."

A search of Vetbiz - <http://www.vetbiz.gov/> - using the NAICS Code 311119, Other Animal Food Manufacturing, produced one result that is not applicable to this procurement. Torres and Associates was identified as a Small, Disadvantaged Veteran-Owned Small Business (SDVOSB); however, the company's product descriptions did not include feed and bedding. The site indicated that Torres "provides medical facility capital equipment, maintenance service programs for medical and scientific equipment, as well as program management."

For bedding, a Vetbiz search using the NAICS Code 322110, Pulp Mills, produced no results; and using NAICS Code 321999, All Other Miscellaneous Wood Product Manufacturing, yielded 15 sources with none that carry animal bedding products.

### 9. Other facts.

There are no corresponding counterparts between Harlan's products and the other leading manufacturer of research animal feed used by VHAs, Purina LabDiet. For example, Harlan's 2018 Rodent Diet and Purina 5053 PicoLab Rodent Diet contain similar ingredients; however, there is not an exact match. Therefore, competitive bidding of equivalent diets is not possible. For these reasons, competition between Harlan and Purina was rejected. Ziegler is another

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major research animal feed supplier to NIH and pharmaceutical companies. Although Ziegler did not respond to the sources sought, the use of Ziegler as another source for competition was considered. Ziegler's feed would not be directly comparable to Harlan's or Purina's, making competition impractical.

The option to develop VA diet formulas and solicit competitive quotes was considered. Purina and Harlan used many full-time nutritionists and results of their experience over 70 years to develop and maintain their brand name products. The VA does not have the manpower or funds to do the same.

10. A listing of the sources, if any, that expressed an interest in the acquisition.

Eight (8) responses were received from the companies listed below. One-on-one exchanges (industry day) were conducted with these companies on March 21, 2014.

- Feed Manufacturers
  - Harlan-Teklad, Inc., Indianapolis, Indiana (also supplies bedding) (large business)
  - Purina Lab Diet, St. Louis, Missouri (large business)
- Bedding Manufacturers
  - The Andersons, Maumee, Ohio, (cob and paper bedding) (large business)
  - Biofresh, Ferndale, Washington (Paper- cellulose from pulp) (large business)
  - Fibercore, Cleveland, Ohio, (Paper) (small business)
  - P.J. Murphy Forest Products, Montville, NJ (Wood by-products)(Large business)
- Feed Distributors
  - AYOTA, San Diego, California, feed for Canine (Woman-owned small business (WOSB))

Legend and White Animal Health Corporation, Lincolnshire, Illinois, feed for canine, feline, guinea pigs, rabbits, gerbils, hamsters, rats and mice, poultry and frogs (WOSB)

11. Agency Actions to Remove Barriers to Future Competition.

For the reasons set forth in this document, the VA has no plans at this time to compete future contracts for the types of supplies covered by this J&A.

12. Technical and Requirements Certification:

I certify that the supporting data under my cognizance, which are included in this justification, are accurate and complete to the best of my knowledge and belief.

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Name: Michael T. Fallon, DVM, PhD  
Chief Veterinary Medical Officer,  
Office for Research and Development  
Veterans Health Administration

Date: August 15, 2014

Signature: Michael T Fallon

13. Procuring Contracting Officer Certification:

I certify that this justification is accurate and complete to the best of my knowledge and belief.

Name: Mr. Blake McIlvane  
Procuring Contracting Officer

Date: 9/15/2014

Signature: blake.mcilmvane@va.gov  
Digitally signed by  
blake.mcilmvane@va.gov  
DN: cn=blake.mcilmvane@va.gov  
Date: 2014.09.15 10:35:26 -0400

14. Legal Sufficiency Certification:

I have reviewed this justification and find it adequate to support other than full and open competition and deem it legally sufficient.

Name: L.T. Burlison  
Staff Counsel

Date: April 14, 2014

Signature: L.T. Burlison

Approval

In my role as Contracting Activity Competition Advocate, based on the foregoing justification, I hereby approve the acquisition of research animal feed and bedding on an other than fair opportunity basis pursuant to the authority cited in paragraph 4 above, subject to availability of funds, and provided that the property herein described have otherwise been authorized for acquisition.

Name: Phyllis Bower  
Competition Advocate  
~~Strategic Acquisition Center~~  
Department of Veterans Affairs

Date: 9/30/14

Signature: Office of Acquisition Operations  
Phyllis Bower



## APPENDIX A – RESEARCH ANIMAL FEED AND BEDDING

Product numbers indicate specifics:

- A product number without a suffix indicates that is non-autoclavable – e.g., 2018
- Certified - 2018C
- Irradiated - 2918
- Autoclavable - 2018S
- Autoclavable, Certified - 2018SC
- Autoclavable, Extruded - 2018SX
- Autoclavable, Extruded, Certified - 2018SXC

### Rodent

2014 Teklad Global 14% Protein Rodent Maintenance Diet  
2014S Teklad Global 14% Protein Rodent Maintenance Diet  
2016 Teklad Global 16% Protein Rodent Diet  
2016S Teklad Global 16% Protein Rodent Diet (Sterilizable)  
2018 Teklad Global 18% Protein Rodent Diet  
2018S Teklad Global 18% Protein Rodent Diet (Sterilizable)  
2018SX Teklad Global 18% Protein Extruded Rodent Diet (Sterilizable)  
2019 Teklad Global 19% Protein Extruded Rodent Diet  
2019S Teklad Global 19% Protein Extruded Rodent Diet (Sterilizable)  
2020SX Teklad Global Extruded Rodent Diet (Soy Protein-Free) (Sterilizable)  
2020X Teklad Global Extruded Rodent Diet (Soy Protein-Free)  
7001 Teklad 4% Mouse/Rat Diet  
7002 Teklad 6% Mouse/Rat Diet  
7004 Teklad S-2335 Mouse Breeder Sterilizable Diet  
7012 Teklad LM-485 Mouse/Rat Sterilizable Diet  
7013 NIH-31 Modified Open Formula Mouse/Rat Sterilizable Diet  
7017 NIH-31 Open Formula Mouse/Rat Sterilizable Diet  
7022 NIH-07 Mouse/Rat Diet  
7034 Teklad Low Salt Mouse/Rat Sterilizable Diet  
8604 Teklad Rodent Diet  
8626 Teklad Mouse Breeder Diet  
8640 Teklad 22/5 Rodent Diet  
8656 Teklad Sterilizable Rodent Diet  
8664 Teklad F6 Rodent Diet  
8728C Teklad Certified Rodent Diet

### Dog

2021 Teklad Global 21% Protein Dog Diet  
2025 Teklad Global 25% Protein Dog Diet  
2027 Teklad Global 27% Protein Dog Diet  
8653 Teklad 25% Lab Dog Diet  
8727C Teklad Certified 25% Lab Dog Diet  
8755 Teklad 21% Lab Dog Diet

Rabbit

2030 Teklad Global Rabbit Diet  
2031 Teklad Global High Fiber Rabbit Diet  
8630 Teklad 15% Rabbit Diet

Guinea Pig

2040 Teklad Global Guinea Pig Diet  
2041 Teklad Global High Fiber Guinea Pig Diet  
7006 Teklad Guinea Pig Diet

Primate

2050 Teklad Global 20% Protein Primate Diet  
2055 Teklad Global 25% Protein Primate Diet  
2056 Teklad Global Soy Protein-Free Primate Diet  
7195 Teklad Hi-Fiber Primate Diet  
7774 Teklad Zoo Primate Diet  
8714 Teklad 15% Monkey Diet  
8788 Teklad 15/10 Hi-Fiber Monkey Diet  
8794 Teklad New World Primate Diet

Cat

2060 Teklad Global Cat Diet

Swine

7037 Teklad Miniswine Diet  
7200 Teklad Vegetarian Pig/Sow Grower  
8753 Teklad Miniswine Diet

Other

7060 Teklad Ruminant Diet  
7778 Teklad Woodchuck Diet

Enrichment

1922 Irradiated Enrich Mix

Harlan produces the following custom diets.

AIN diet formulas

CA.170481 AIN-76A Purified Diet  
TD.94045 AIN-93G Purified Diet  
TD.94048 AIN-93M Purified Diet  
TD.94096 Adjusted Vitamins Diet

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TD.97184 Purified Diet  
TD.00102 Purified Diet  
TD.95092 7% Corn Oil Diet

Carbohydrate Adjusted

TD.89247 60% Fructose Diet  
TD.86489 Diet with Adjusted Sucrose/Cornstarch  
TD.96348 Diet (20% Lactose, 2% Ca, 1.25% P)  
TD.98090 70% Carbohydrate Diet  
TD.96355 Ketogenic Diet

Fat/Kcal Adjusted

TD.06414 Adjusted Calories Diet (60/Fat)  
TD.06415 Adjusted Calories Diet (45/Fat)  
TD.03584 35% Lard Diet (Adj., No C)  
TD.93075 Adjusted Calories Diet (55/fat)  
TD.95217 Adjusted Fat Diet  
TD.96132 Adjusted Fat Diet  
TD.88137 Adjusted Kcal Diet (42% from fat)  
TD.08811 45% Kcal Fat Diet (21% MF, 2% SBO)

Protein Adjusted Diets

TD.93328 "Protein Free" Diet  
TD.90016 6% Protein Diet  
TD.91352 20% Protein Diet  
TD.90018 40% Protein Diet

Atherogenic

TD.88137 Adjusted Calories Diet (42% from fat)  
TD.88051 Cocoa Butter and Purina Chow Diet  
TD.90221 Cocoa Butter Diet with 75% Purina Mouse (5015)  
TD.94059 5015, Cocoa Butter, Chol., etc. (excludes cholate)  
TD.02028 Atherogenic Rodent Diet (1.25% Chol. & 0.5% Cholic Acid)  
TD.01383 2018 + 2% Cholesterol

Amino Acid Defined

TD.99366 Amino Acid Diet  
TD.90262 Methionine & Choline Deficient Diet  
TD.00434 Folic Acid Deficient Diet  
TD.99386 No Lysine AA Diet

Vitamin Adjusted Diets

TD.86143 Vitamin A Deficient Diet  
TD.89123 Vitamin D Deficient Diet  
TD.88163 Vitamin E Deficient Diet  
TD.95247 Folic Acid Deficient Diet

Mineral Adjusted Diets

TD.80396 Iron Deficient Diet  
TD.85419 Zinc Deficient Diet  
TD.88239 Potassium Deficient Diet  
TD.95027 Low Calcium Diet (0.4% P)  
TD.96348 Diet (20% Lactose, 2% Ca, 1.25% P)  
TD.92163 Selenium Deficient Diet  
TD.95125 Iodine Deficient (0.15% PTU)

NaCl Adjusted (Natural Ingredient)

TD.90228 Sodium Deficient Diet  
TD.96208 0.49% NaCl Diet  
TD.90229 1% NaCl Diet  
TD.92034 4% NaCl Diet  
TD.92012 8% NaCl Diet

Doxycycline Diets

TD.01306 Rodent Diet (2018 + 625 doxycycline)  
TD.08541 Rodent Diet (2018 + 625 doxycycline + Red)  
TD.00502 Rodent Diet (2018 + 200 doxycycline)  
TD.110720 Rodent Diet (2020 + 625 doxycycline)  
TD.09651 Rodent Diet (2019 + 625 doxycycline)  
TD.09761 Rodent Diet (2019 + 625 doxycycline + Green)  
TD.02503 Rodent Diet (2016 + 625 doxycycline)  
TD.00426 Rodent Diet (2014 + 625 doxycycline)  
TD.07382 Rodent Diet (2014 + 625 doxycycline + Red)  
TD.05125 Rodent Diet (7012 + 625 doxycycline)  
TD.08434 Rodent Diet (7012 + 625 doxycycline + Blue)  
TD.98186 Rodent Diet (7012 + 200 doxycycline + Red)

Tamoxifen Diets

TD.07262 Tamoxifen Diet (2016 + 400 TCS)  
TD.09327 Tamoxifen Diet (2016 + 400 TCS + Red)  
TD.07694 Tamoxifen Diet (2016 + 250)  
TD.110069 Tamoxifen Diet (2016 + 250 + Red)  
TD.10893 Tamoxifen Diet (2016 + 250 + Green)  
TD.08518 Tamoxifen Diet (2016 + 500)  
TD.10296 Tamoxifen Diet (2016 + 500 + Green)

Basal Mixes

TD.00235 Basal Mix (93%); AIN-93G without fat  
TD.88232 Basal Mix (Without 20% Oil)

Custom Research Other Species

TD.92033 Swine Diet (15% Lard, 1.2% Cholesterol)

TD.92052 Swine Diet (15% Lard, 1.5% Cholesterol)

TD.93296 Swine Diet (15% Lard, 2% Cholesterol)

Medicated Diets

Ivermectin - TD.130755

Fenbendazole - TD.01432

Uniprim® (contains trimethoprim and sulfadiazine) - TD.06596

Harlan Teklad also produces custom research diets designed for specific research projects, as requested.

**APPENDIX B – RESEARCH ANIMAL BEDDING**

Harlan manufactures and distributes all major bedding types used in lab animal research applications, and they also use many of these same products in-house in their own animal breeding production. The general list of materials Harlan sells include:

- WOOD: hardwood chips, shredded aspen, pine shavings & pelleted aspen
- CORN COBS: 1/4" & 1/8" grades, in all packaging types
- PAPER: reclaimed soft pulp, pelleted paper, diced white alpha-cellulose
- PAPER, NON-CONTACT: dimpled white cardboard & poly lined tissue cage liners
- ENRICHMENT: Nesting and environmental enrichment materials (mainly paper)

All bedding products are available standard, certified, and irradiated. Bedding products are not specific to species. Specific products include the following.

Bedding Product	Manufacturer	Type		
		Paper	Wood	Cob
6060 iso-BLOX Enrichment Material, 4800 squares per case	Harlan Diamond Star	X		
6960 Irradiated iso-BLOX Enrichment Squares, 4800 per case	Harlan Diamond Star	X		
6105 iso-PADS Enrichment Bedding, 6" x 10", 500 per case	Harlan Diamond Star	X		
6900 iso-PADS Enrichment Bedding, 6" x 10", 500 per case	Harlan Diamond Star	X		
7070C Certified Diamond Dry Cellulose Bedding, 20 Lbs.	Harlan Diamond Star	X		
7970C.20 Certified/Irradiated Diamond Dry, 20 Lb. Poly Cap Sack	Harlan Diamond Star	X		
7084 Teklad Pelleted Paper, 40 Lbs.	Harlan Diamond Star	X		
7086G Teklad Pelleted Hardwood Bedding, 40 Lbs.	Green Products, Inc.		X	
7087C Certified Teklad Soft Cob Enrichment Bedding, 25 Lbs.	Harlan Diamond Star			X
7987C.25 Certified/Irradiated Soft Cobs, 25 Lbs.	Harlan Diamond Star			X
7088 Teklad Laboratory Pine Shavings, 3.0 cubic foot bale	Harlan Diamond Star		X	
7089 Teklad Diamond Soft Bedding, 20 Lbs.	Harlan Diamond Star	X		
7989C.20 Certified/Irradiated Diamond Soft Bedding, 20 Lb. bag	Harlan Diamond Star	X		
7979C.CS Certified/Irradiated Diamond Twists, Enrichment, 1900 per case	Harlan Diamond Star	X		
7090A Teklad Aspen Sani Chips, 2.2 cubic foot bale	P.J. Murphy		X	
7090M Teklad Maple Sani Chips, 2.2 cubic foot bale	P.J. Murphy		X	
7090C Certified Teklad Sani Chips, 2.2 cubic foot bale	P.J. Murphy		X	
7090S Teklad Softwood Screened, 2.2 cubic foot bale	P.J. Murphy		X	
7990.BG Irradiated Teklad Sani Chips, 30 Lb. Poly Cap Sack	P.J. Murphy		X	
7990.CS Irradiated Teklad Sani Chips, 4 x 3 lb. vacuum packs	P.J. Murphy		X	
7092 1/8" Corn Cobs, 40 lbs.	Green Products, Inc.			X
7092A, Autoclavable 1/8", Corn Cobs, 40 lbs.	Green Products, Inc.			X
7902.25 Irradiated 1/8" Corn Cobs, 25 lb. cap sacks	Green Products, Inc.			X
7902.CS Irradiated 1/8" Corn Cobs, 4 x 7 lbs./case	Green Products, Inc.			X
7097 1/4" Corn Cobs, 40 lbs.	Green Products, Inc.			X
7097A Autoclavable 1/4", Corn Cobs, 40 lbs.	Green Products, Inc.			X
7907.25 Irradiated 1/4" Corn Cobs, 25 lb. cap sacks	Green Products, Inc.			X
7907.CS Irradiated 1/4" Corn Cobs, 4 x 7 lbs./case	Green Products, Inc.			X
7093 Teklad Shredded Aspen, 4.38 cubic feet (compressed) 35 Lbs.	American Excelsior Corp.		X	
7099 TEK-Fresh, 70 Liters	Healthy Pet/Rettenmeier	X		
7999.160L Irradiated TEK-Fresh, 10 x 16 Liter Poly Packs	Healthy Pet/Rettenmeier	X		
7099W White TEK-Fresh, 70 Liters	Healthy Pet/Rettenmeier	X		
Diamond TEK Custom-Cut Paper Cage Liners, White dimpled cardboard	Harlan Diamond Star	X		
Diamond Pads Custom Cut Cage Liners, Poly-Backed, 8 Ply, White	Harlan Diamond Star	X		
Diamond Pads Custom Cut Cage Liners, Poly-Backed, 14 Ply, White	Harlan Diamond Star	X		