

Teklad Global Diets[®]

Harlan Laboratories

Your formula for success.

Quality. Innovation.



Reduced variables.



Consistent results.



Innovation and consistency

Diet should reduce rather than introduce variation

Teklad Global Diets® are the world's leading laboratory animal diets.

Innovatively designed for biomedical research

It is not enough to meet basic nutritional criteria; diets should reduce rather than introduce variation. Teklad Global Diets are an integrated range of natural ingredient diets for specific life stages.

- Levels of protein, energy, vitamins and minerals more closely align with nutritional requirements.
- Global Rodent Diets are vegetarian and reduce or exclude ingredients that contain components like phytoestrogens and nitrosamines, which can affect the consistency of experimental results.

By concentrating on reducing research variables through quality and consistency, we help you do research better.

What is fixed formulation?

Fixed formula diets contain the same ingredients, in the exact same quantities, in every batch of diet produced. Other manufacturers may use variable formula diets in which both ingredients and inclusion rates are changed to an extent unknown to the investigator.

Why fixed formulation?

Natural ingredients contain 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 fixed formulation with rigorous ingredient control, the variation in both nutrient and non-nutrient levels is minimized, meaning consistent results for you.**

What makes Teklad Global Diets better?

FEATURE	BENEFIT
Fixed Formulation	<ul style="list-style-type: none">• Same exact formula every time leads to reliable research results• Quality control program includes single source suppliers, stringent ingredient procurement, and testing prior to acceptance into mill to ensure consistency in finished product
Quality, Production & Packaging	<ul style="list-style-type: none">• ISO 9001:2000 or GMP Certified facilities• Certified Diet options readily available, with multiple stock items for most species• Global supply chain with redundant production capabilities both in Europe and the U.S.• Documented manufacturing checks and product testing throughout the entire process verifies consistency• Standardized item codes, color-coding, and species icons for ease of package identification
Storage, Handling & Delivery	<ul style="list-style-type: none">• Manufacturer-direct control• Climate-controlled warehouses maintain product integrity• Validated biosecurity and rigorous vermin control programs are utilized at all sites• Global availability allows for convenient, reliable, and cost-effective worldwide harmonization
Technical & Client Support	<ul style="list-style-type: none">• Nutritionists dedicated to answering your questions• Customer service centers worldwide provide direct link to the manufacturer• Local sales support on international level

Phytoestrogens

Reducing research variables

Teklad Global Rodent Diets reduce or eliminate soybean meal and exclude alfalfa meal, thereby reducing phytoestrogens.

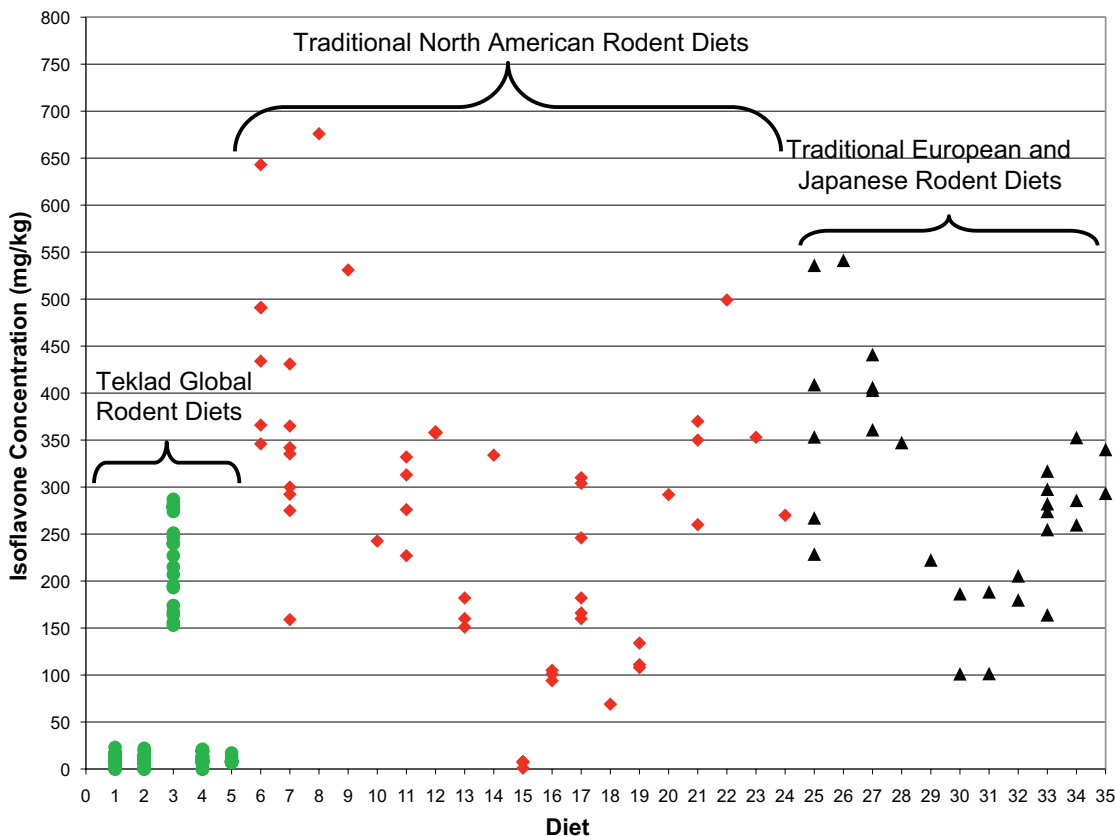
- Soybean meal (genistein & daidzein) and alfalfa meal (coumestrol) are the major sources of phytoestrogens in laboratory rodent diets.
- These naturally occurring compounds have the potential to affect research through interaction with endogenous estrogens and via other mechanisms.

Phytoestrogens may substantially diminish the effectiveness of animal models of disease and adversely affect the consistency of experimental results.

Research areas affected by phytoestrogens

- Reproductive & endocrine disruptor studies
- Cancer studies
 - Breast, prostate, colorectal, lung
- Cardiovascular disorders
 - Thrombosis, atherosclerosis
- Lipid and cholesterol studies
- Diabetes & other endocrine studies
 - Insulin, vasopressin, thyroid hormones
- Bone metabolism studies
- Central nervous system studies
 - Behavior, memory, learning, neural degeneration
- Immunology
- Gene expression studies

Variation in published isoflavone levels (daidzein plus genistein) between diets and between batches of the same diet



For experimental endpoints sensitive to isoflavones, this batch to batch variation can lead to inconsistent experimental results.

This plot shows published literature values for isoflavone levels in traditional diets from North America (red), Europe and Japan (black), together with independent laboratory values from the Global Rodent Diets (green). Each symbol is one value and symbols within a column denote multiple values for that diet. The Teklad Global Rodent Diets are 1) 2014, 2) 2016, 3) 2018, 4) 2019X, 5) 2020X. 2018 contains a reduced amount of soybean meal compared to many traditional rodent diets, while the other Global Rodent Diets contain none. All Teklad Diets are fixed formulas.

Teklad Global Diet line at a glance

SPECIES	Rodent					Dog		
	2014	2016	2018	2019X	2020X	2021	2025	2027
Product	2914	2916	2918	2919X	2920X			
Irradiated (29xx)	2914	2916	2918	2919X	2920X			
Certified (C)	2014C	2016C	2018C			2021C	2025C	2027C
Autoclavable (S)	2014S	2016S	2018S 2018SX	2019SX	2020SX			
Extruded (X)	2014X	2016X	2018SX	Standard	Standard	Standard	Standard	Standard
KEY FEATURES								
	14% Protein 4% Fat	16% Protein 4% Fat	18% Protein 6% Fat <ul style="list-style-type: none">Moderate Phytoestrogen	19% Protein 9% Fat	19% Protein 6% Fat	21% Protein 6% Fat	25% Protein 9% Fat	27% Protein 16% Fat
	<ul style="list-style-type: none"> Vegetarian (no nitrosamines) Minimal phytoestrogens (2014, 2016, 2019X, 2020X) Suitable for imaging studies (no alfalfa meal) Extruded versions drastically reduce clumping and hardening after autoclaving and reduce waste 					<ul style="list-style-type: none"> High quality poultry by-products Smooth transition between diets Options for all life stages All options stocked as certified 		
PURPOSE AND BENEFITS								
	<ul style="list-style-type: none"> Prolonged Maintenance Aging Toxicology Oncology 	<ul style="list-style-type: none"> Growth Maintenance Toxicology Oncology 	<ul style="list-style-type: none"> Breeding Growth Maintenance General Purpose 	<ul style="list-style-type: none"> Breeding Genetically Engineered Mice Poorly-performing Strains Oncology 	<ul style="list-style-type: none"> Breeding General Purpose Estrogen-sensitive breeding studies Reproductive Toxicology Oncology 	<ul style="list-style-type: none"> Maintenance 	<ul style="list-style-type: none"> Gestation Lactation Growth Maintenance 	<ul style="list-style-type: none"> Gestation Lactation Growth
CALCULATED AVERAGE NUTRIENT PROFILE (as formulated)								
Protein, %	14.3	16.4	18.6	19.0	19.1	21.0	26.0	28.6
Fat, %	4.0	4.0	6.2	9.0	6.5	7.1	10.5	16.3
Crude Fiber, %	4.1	3.3	3.5	2.6	2.7	4.0	3.0	2.5
NDF, % ¹	18.0	15.2	14.7	12.1	12.3	13.7	11.5	9.5
Energy Density, kcal/g	2.9	3.0	3.1	3.3	3.1	3.2	3.5	3.8
kJ/g	12.1	12.6	13.0	13.8	13.0	13.4	14.6	15.9
FIXED FORMULA – achieving high consistency of nutrients coupled with the same ingredient inclusions in every batch								
	✓	✓	✓	✓	✓	✓	✓	✓

¹ Neutral detergent fiber (NDF) is an estimate of insoluble fiber, including cellulose, hemicellulose, & lignin. Crude fiber methodology underestimates total fiber.



Product

- Not all products are stocked locally, but are available upon request with extended lead time and additional fees.
- All diets can be available in meal form (M); some may require extended lead time and additional fees.

Irradiated

- The irradiated version is identical to the standard version, with the exception of packaging.
- The "9" in the second position of the product code denotes the product has been irradiated.

Rabbit		Guinea Pig		Primate			Cat	Ferret
2030	2031	2040	2041	2050	2055	2056	2060	2072
2930	2931	2940	2941					
2030C	2031C	2040C		2050C	2055C	2056NC	2060C	2072C
				Standard	Standard	Standard	Standard	Standard
16% Protein 3% Fat • Vegetarian	14% Protein 2% Fat • Vegetarian • Higher Fiber	18% Protein 3% Fat Global Guinea Pig Diets are fortified with stabilized vitamin C	17% Protein 4% Fat • Higher Fiber	20% Protein 4% Fat • Higher Fiber	25% Protein 5% Fat Global Primate Diets are fortified with stabilized vitamin C	23% Protein 6% Fat • Vegetarian • Minimal Phytoestrogen	32% Protein 12% Fat • Includes a Urinary Acidifier	36% Protein 18% Fat • Highly Digestible • Low Ash Poultry by-products
• Gestation • Lactation • Growth	• Maintenance • Long Term Studies	• Gestation • Lactation • Growth	• Maintenance	• Gestation • Lactation • Growth • Maintenance	• Gestation • Lactation • Growth • Maintenance	• Gestation • Lactation • Growth • Excludes Wheat Gluten • May Improve Stool Consistency • Maintenance	• Gestation • Lactation • Growth • Maintenance	• Gestation • Lactation • Growth • Maintenance
17.7	14.8	18.7	17.6	20.0	25.6	23.9	34.0	39.0
3.3	2.3	3.3	4.4	5.4	5.9	6.6	12.5	19.0
13.7	21.8	11.9	14.8	8.1	3.5	3.1	1.7	1.2
29.2	39.4	25.2	32.0	18.4	9.2	11.6	6.7	4.4
2.4	2.0	2.5	2.4	2.8	3.2	3.2	3.5	3.8
10.0	8.4	10.5	10.0	11.7	13.4	13.4	14.6	15.9
✓	✓	✓	✓	✓	✓	✓	✓	✓

Certified

- There are no differences in the formula, ingredients, manufacturing standards, and quality control processes between non-certified and certified diets.
- Several certification types are available to meet variations in national regulatory standards; for further information contact your local customer service department.
- If not stocked as certified (C), GLP certification can be made available by request, but a minimum order size or charge may be required.

Autoclavable

- The autoclavable version (S) differs in the level of vitamin supplementation, which is increased to account for presumed losses due to autoclaving.

Extruded

- For rodent diets, the combination of the extruded form (X) and appropriate fortification allows for superior autoclaving quality (decreased hardness and clumping) where problems are experienced with the autoclavable pellet form. Waste and fines are also dramatically reduced.

Refer to product datasheets at harlan.com for a full listing of ingredients and calculated nutrient values.



Complementary products

Medicated Diets & Bedding

Medicated diets

As some compounds are best administered orally, several medicated diets are available from stock.

Use as directed by a veterinarian.

TD.01432 2018S Rodent Diet with 150 ppm Fenbendazole

T.2018.12F2 2018 Rodent Diet with 150 ppm Fenbendazole (Europe)

TD.06596 2018 Rodent Diet with Uniprim (Irradiated)

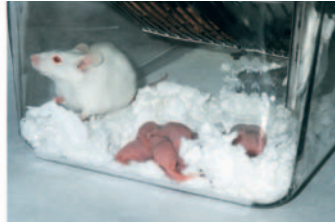
Other medicated diets are available in small-scale or large-scale production. Contact us for more details.

Enrichment products

We offer several unique environmental enrichment items, featuring our 1922 Irradiated Enrich Mix for non-human primates. Cotton-based iso-PAD® and iso-BLOX® enrichment and nesting materials for rodents combine enrichment with superior product sanitation and safety (no long strands or fibers).



6105 iso-PADs



7089 Diamond Soft



7090A Sani-Chips®

7097 Corn Cobs

Bedding

Your animals are in continuous contact with bedding, yet the importance of bedding is often overlooked.

Harlan Laboratories offers a full line of Teklad bedding including corn cob, wood and paper products, with these advantages:

- Most have been thoroughly tested in our animal barriers
- Several are produced in our own bedding plant, uniquely dedicated to production for the research community
- Available in certified and irradiated options

Contact us for information or samples of the products available in your region.



7099 TEK-Fresh™

Based on the nature of the products, some cannot be exported overseas without proper import licenses in the specific country of destination.

Collaboration and experience

Teklad Custom Research Diets

Custom diets are developed for a specific purpose and benefit from your input and our expertise.

The Teklad Custom Diets Difference

With more than 20,000 formulas in our database attained over 40 years, Harlan nutritionists have vast experience to draw upon.

Over 20 years ago we collaborated to develop TD.88137, which has become a staple of atherosclerosis research and is used for other purposes. This diet is still widely used, and we have created hundreds of modifications at the request of our customers.

We are committed to developing and maintaining long-term customer relationships, and we continue to advance to meet the demands of science.

What is a Custom Diet?

Purified Diets are the primary type of custom diet and are made from refined ingredients.

- Typical ingredients include casein, sucrose, cornstarch, cellulose, and various types of fats and oils
- Simple chemical composition allows manipulation of individual nutrients
- Excludes or reduces non-nutrients that could have biological activity

A **natural ingredient diet** with added ingredients is another common type of custom diet.

Your **ingredient or compound** can be added at a prescribed amount to a purified or natural ingredient diet.

- A convenient approach to dosing research animals
- Examples include food extracts, cuprizone, tamoxifen, BPA, antioxidants, anti-inflammatory agents, fatty acids, and many more



A C57BL/6NHsd male mouse fed high fat diet TD.06414. Contact us for for phenotype information of mice fed this and other high fat diets.

Common classes of custom diets include:

- High fat (40–60% kcal from fat)
- High carbohydrate (fructose, sucrose)
- Atherogenic (cholesterol, fat, cholate)
- Vitamin & mineral adjusted
- Amino acid defined
- Doxycycline-containing diets
- Addition of customer-supplied ingredients/compounds



Key Planning Information

- 3 kg minimum order quantity
- Diets are made fresh to order
- Teklad diets are shipped throughout the world; contact your local customer service department for estimates of lead time
- Recommend storage at 4°C or lower for most products; use within 6 months
- Other services available upon request, including vacuum packaging, irradiation, and nutrient testing

Contact one of our staff nutritionists at:
askanutritionist@harlan.com

Based on the nature of the products, some cannot be exported overseas without proper import licenses in the specific country of destination.

Find out more

We're Harlan Laboratories. And we're here to help you do research better.

www.harlan.com

Contact us

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