
DLG
German Agricultural Society
Test Center Technology and Farm Inputs

www.DLG.org
DLG Test Center Technology and Farm Inputs: Information before investment

Investment decisions on new agricultural machinery or farm inputs should always be based on hard data and facts. For more than 130 years, DLG has therefore been testing agricultural machinery, equipment and farm inputs. The DLG Test Center Technology and Farm Inputs with its tests in the fields of vehicle technology, indoor and field operations, farm inputs as well as machinery and equipment for forestry, municipal and horticultural applications, is one of the world’s most important testing organizations.

The Test Center in Gross-Umstadt (Germany) provides practitioners with information that is an important decision-making tool for investments and practical use. Its more than 4,000 test reports and test results provide farmers with clear guidance – regarding agricultural machinery and equipment as well as compound feeds, silage additives, fertilizer lime, cleaning and disinfecting agents or udder hygiene products.

The methods and test profiles are practice-oriented, independent of the manufacturers and developed by neutral Test Commissions. They are based on state-of-the-art measuring techniques and test equipment and take international standards and norms into account.

DLG – Open network and professional voice

DLG supports progress in the agricultural, agribusiness and food sector worldwide through knowledge, quality and technology transfer, and contributes to sustainably safeguarding vital global resources. As an open, international network, DLG works with experts from all over the world to develop future-oriented solutions for the challenges faced by the sector. It organizes leading international fairs and events in the fields of crop cultivation, animal husbandry, agricultural and forestry technology, energy supply and food technology. Its quality tests for foods as well as for agricultural machinery, equipment and farm inputs are international leaders in their fields. Through its professional work and its network of experts, DLG repeatedly provides fresh impulses for practitioners.

Information: www.DLG.org
DLG PowerMix Roller test stand: Know-how of the top class

The tractor test stand of the DLG Test Center is a masterpiece of engineering skill. It combines the highest degree of complexity and functionality and is the world’s most efficient measuring facility for testing the complete “tractor” system. The engineers at the DLG Test Center are able to load the vehicle in a replicating real field work manner. Making it possible to record all input and output energies, beginning with the diesel and AdBlue input quantities and continuing via the net effective outputs at wheels, PTO shaft and the hydraulic interfaces up to the resulting exhaust emissions.

The DLG PowerMix tests are carried out on the test stand. Other commercial vehicle tests are also possible. Even minor efficiency optimizations in the < 1 % range can be analyzed better than previously, as external influencing factors, such as for example the ambient temperature, are excluded by the test stand climate control facility.

Safety for manufacturers and farmers

The experts at the DLG Test Center Technology and Farm Inputs test several thousand agricultural machinery and equipment products as well as farm inputs every year. The rewards for passing the demanding, practice-relevant tests are labels such as DLG APPROVED as well as the DLG quality label:

- The DLG Test Commissions – consisting of leading practitioners, scientists, experts from associations, consultants and administrators – together with the DLG test engineers translate practice-oriented questions from indoor and outdoor operations into reproducible technical tests. Whether on test stands or in defined scenarios in practical use on the farm, the products and innovations are examined down to the tiniest detail with the help of state-of-the-art measuring technology and assessments by experienced practitioners.

- The test method and test design are developed in close consultation with the independent, voluntary Test Commissions. These determine the assessment criteria and decide on the allocation of test labels.

- The DLG Test Center offers an ideal framework for research and development-related tests. It is used by manufacturers to compare prototypes and pre-production models with other products, or to identify weaknesses in practical application before the market launch and to define potentials for optimization.
Testing fields for technology and farm inputs

The DLG Test Center offers standardized tests as well as individual tests in the following fields of competence:

Vehicle technology

In the field of vehicle technology, tractors are examined and tested under various aspects according to international standards and the DLG’s own standards. User protection is the first priority. As a technical service designated by the German Federal Motor Transport Authority and the OECD (Organization for Economic Cooperation and Development), the DLG Test Center conducts safety tests of components (e.g. roll-over protection devices and cabs of tractors, construction machinery and trucks) as well as tests to determine the field of vision or noise and vibration loads on the complete vehicle. Material and continuous load tests on components and systems as well as evaluation of the electronic functionalities of steering systems and ISOBUS round off the spectrum of tests.

The performance and consumption data of tractors are determined under standardized and reproducible conditions. In accordance with OECD Tractor Code 2, the performance is recorded on the power take-off output test stand and the draught power measuring vehicle. The crowning service is determination of the energy efficiency of tractors within the framework of a DLG PowerMix test simulating practical on-farm applications.

DLG PowerMix – The premium class for determining the energy efficiency of tractors

On the basis of typical tractor workloads in practice, the DLG Test Commission has defined 14 load cycles, under which the fuel and AdBlue consumption, the performance and ultimately the energy efficiency of the overall vehicle are determined. The load cycles reflect typical field and transport work in both the partial and full load range. Tests cover pure pulling work, e.g. with a plough or cultivator, as well as mixed work using the PTO shaft and the hydraulic system in addition to the drive.

This is the case, for instance, during field work with a rotary harrow, mower, manure spreader or baler. Heavy and light transport tasks are also reproduced to check road efficiency in order to obtain an overall picture of the tractors’ energy efficiency in practical use under reproducible conditions.

Test reports: www.DLG-Test.de/powermixapp
Focus on animal welfare

An important principle for tests in the area of animal husbandry technology is to make the animal welfare requirements demanded by the Animal Welfare Act measurable. Indicators from the fields of ethology and animal health as well as physiological and performance, condition and hygiene parameters are used for this purpose. The relevant indicators are established by the Test Commissions in consultation with the DLG Expert Committee on Animal Welfare. Another feature of the tests is use on farms in order to make the effect on animals in practical use measurable and assessable.
Field operations

The spectrum of DLG tests in the area of field operations ranges from seedbed preparation to harvesting. DLG engineers test almost all machines along the cultivation chain in arable farming and grassland operations – soil-working machinery, seed drills, mineral and universal fertilizer spreaders, slurry spreaders, combine harvesters, forage harvesters, mowers, hay and silage technology as well as bale presses. Among the key areas defined by the DLG Test Commissions are criteria such as work quality, working rates, handling, fuel and tractive force requirements, as well as maintenance and safety, which can be adapted in modular fashion to the respective test. The tests are supplemented by an intensive practical on-farm test and evaluation by experienced practitioners.

Farm inputs

DLG tests farm inputs based on the high DLG standards and awards the DLG quality label and the DLG seal of approval to products that pass the tests. Among the tested products are fertilizer lime, compound feeds (feed concentrate and mineral feed), udder hygiene products, cleaning and disinfecting agents, silage additives, animal housing disinfectants, as well as hoof care and hygiene products. The DLG farm input tests include product and partially also process certification. All DLG rated farm inputs are subject to continuous monitoring. Consistent product quality is ensured through repeat tests and/or audits of the manufacturing plant at least once a year.

Technology for forestry, municipal and horticultural applications

With more than 600 tests per year, the test engineers in the “Forestry, municipal and horticultural technology” test area offer the manufacturers of small power equipment a full service range: consultancy, safety testing in accordance with the Machinery Directive, type approval testing, tests for obtaining GS, CE and other certification marks. In close cooperation with the KWF (German Center for Forestry Work and Forestry Technology), the DLG test engineers assess the practicability of small power equipment and award the DLG APPROVED label.
DLG APPROVED –
Making certified quality easier to recognize

In the market the quality marks awarded by the DLG Test Center Technology and Farm Inputs stand for highest product quality that has been validated independently and impartially. This has been confirmed by surveys among users in practice. The quality mark is awarded in the following variants:

- DLG APPROVED full test for a specific agricultural engineering product, machine or system
- DLG APPROVED for single, value-determining criteria for product differentiation and special highlighting of innovations in machinery and technical products
- DLG PowerMix for determining the energy efficiency of tractors and farm vehicles
- DLG APPROVED for farm inputs. The two possible variants distinguish between a product test and certification of both the manufacturing process and the product quality.
- DLG quality label/DLG seal of approval: the DLG quality label and the DLG seal of approval are awarded additionally within the context of farm input tests.

Importance
DLG occupies a prominent position among known organizations and magazines that conduct tests in the agricultural sector.

Influence
The DLG quality marks influence investment decisions more strongly than other agricultural quality marks.
Publications

- **www.DLG-Test.com**: The DLG test reports (German/English) offer a convincing, manufacturer-independent way of evaluating and comparing the quality and performance capability of agricultural machinery and equipment. Alongside the current test reports, more than 4,000 test results are published in the database.
- **DLG-Test Landwirtschaft**: Background reports and current test results from the DLG Test Center, published four times a year
- **agrifuture**: Publications of test reports in the “International magazine for professional farming”
- **Rural**: Publications of test reports in the “Magazine for rural development”
- **DLG members’ newsletter**: Current test results published weekly
- **National and international DLG newsletter for agriculture**: More than 130,000 contacts worldwide
- **Social Media**: Communication of test reports via Twitter and various Facebook channels
- **Trade fairs**: Presentation of current test reports and test exhibits at the leading international trade fairs AGRITECHNICA, EuroTier, DLG-Feldtage, DLG-Waldtage, HORTITECHNICA and EnergyDecentral

DLG membership:
Giving knowledge a voice.

DLG was founded by the engineer, painter and author Max Eyth in the year 1885. It has over 27,000 members and is a leading organization in the agricultural and food sector. It is politically independent, an internationally networked organization and is open to all individuals, companies and institutions interested in agriculture and food production.

As an open network and professional voice of agriculture, agribusiness and the food sector, we want to increase expertise, ensure a broad transfer of technology and know-how, and set and secure quality standards. This is why we promote dialogue between scientists and researchers, practical farmers and the society across professional and national frontiers.

Become part of our network. We provide orientation, offer perspectives and lend a voice to your important topics – with the aim of working together with you to shape the future of agriculture, agribusiness and the food sector.

[www.DLG.org/membership](http://www.DLG.org/membership)