



New Products

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Arable farming

Tractors and ATVs

- Fog A/S, Henrik A. - Stand No. C-2708**
- ★ Antonio Carraro, type SRH, is an angle-steered, reversible tractor with 4 equally large wheels. This tractor is special in that it has both mechanical and hydrostatic transmission.
- Nicolaisen & Larsen A/S - Stand No. C-2612**
- ★ JCB Fastrac, type 7170, 7200 and 7230, are tractors with, respectively, 173, 190 and 220 hp. These can be equipped with ABS brakes and have self-levelling, hydraulic suspension on the front and rear axles. There is a variance in wheel size from front to rear.
- Præstbro Maskiner A/S - Stand No. M-9636**
- ★ Landini, type Mondial, is a new series of tractors with Perkins Tier 3 engines. These tractors are in the range 92 hp to 110 hp and can be supplied with 3 clutch-free gears plus electro-hydraulic turning gear.
 - ★ Landini, type Powermax, is a new series of tractors with Iveco common rail engines. Range: 140 to 165 hp. They have sealed centre hydraulics and powershift transmission with 48 forward gears and 40 reverse gears.
 - ★ Præstbro Electric powered, 4WD, hunting and outdoor vehicle, type EG 6020, for passenger transport in difficult terrain. It has separate electric motors for front and rear axles. Top speed: 40 km/hour. Operational distance with full charge: More than 60 km.
- Scan-Agro A/S - Stand No. M-9610**
- ★ Same Explorer3 110 / Lamborghini R3.110 EVO is a new series of compact tractors which are available in three versions - standard, GS and in a new version, the HS with 60x60 gearbox with three-stage non-clutch gear change. It also has non-clutch reversing gear and Stop & Go with which the brake pedal can also engage/disengage the gearbox. When the brake pedal is released, the transmission is again engaged. The Explorer 110 is also available in a Continuo/VRT version with infinitely variable transmission. This transmission has a range for fieldwork and a range for road transport. The gears can be programmed for automatic, PTO and manual operation. This is also equipped with cruise control and non-clutch reversing gear. The tractors are available with Deutz motors from 82 to 109 hp.
- ★★ Same Frutteto Continuo is a new series of narrow-tracked tractors equipped with infinitely variable transmission. This transmission has a range for fieldwork and a range for road transport. The gears can be programmed for automatic, PTO and manual operation. With automatic transmission maximum speed is selected via joystick and the actual speed via the drive

pedal. This ensures that the correct speed can be attained at the lowest possible motor revolutions. In the PTO phase, the function is as above but the motor revolutions are permanent. In the manual phase, automatic is disengaged. These tractors are also equipped with cruise control and non-clutch reversing gear. The tractors are available with motors from 55 to 96 hp.

- ★ Same Iron3 210 DCR / Lamborghini R7.210 EVO is a further development of the Iron 200 / R7.200 model. It has a Deutz common-rail, 220 hp motor. This is a new design with additional noise reduction so that this is reduced by 3 dB. The cabin has pneumatic suspension. This model has 18 gear power-shift transmission and can be equipped with an additional 9 crawl gears. It has automatic gear selection and smooth engagement of the hydraulic reversing gear. The tractor has an electronic parking brake and a booster brake system to avoid having to force the brake pedal.

Electronic/measuring equipment for arable farming

Agrovo - Stand No. M-9724

- ★★★EUR Leica Geosystems AG, type MojoRTK, is an automatic control system for tractors and other agricultural machinery. The system has integrated data communication via the mobile telephone network and can be serviced via the so-called Virtual Wrench, so that the farmer can proceed with his work. When the driver presses the help switch, the service centre will link up to the control computer. You can read eventual error codes and can apply remote control and thus correct errors in the system. If there is a requirement for an update of the software, then this can be installed via the internet. The MojoRTK computer is about the size of a car radio. As it also contains both MP3 player and radio, the unit does not take up additional space in the cabin.

Bogballe A/S - Stand No. D-3212

- ★ Calibrator Zurf is an electronic control system for Bogballe M-line and L-line mineral fertilizer spreaders. It can control automatic dosage regardless of spreading width and operating speed. Dosage can either be keyed in directly or via a PC. It can handle data for 4x100 markers. A new feature is that it can provide dosage at wedges. Data transmission out/in via USB communication.

Brøns Maskinforretning Aps - Stand No. N-1000

- ★★★DK Amazone GPS-switch linked to ZA-M Ultra-Hydro fertilizer spreaders facilitates the automatic alteration of spreading width and dosage at edges, wedges and headlands. The dosage is controlled via online weighing cells.

Cultivation

- Dal-Bo A/S - Stand No. N-1116**
- ★ The Frontgrubber is a front-mounted harrow for subsoiling. It can operate down to 30 cm and is equipped with hydraulic stone release on all shares. The harrow can adjust 60 cm in the vertical and 30 cm in the horizontal positions. The operating depth is controlled by two self-adjusting support wheels.
 - ★ Roller, type Maxiroll 2008 12.30 m, is a roller with hydraulic laminated planks. It consists of 5 roller sections which are mounted on a flexible frame so that it can easily follow field contours. It can be fitted with various ring types.
- Flex Trading A/S - Stand No. N-1114**
- ★ Agrolux, type HSRWT and type HSRWS are semi-towed turn/wrest ploughs with hydraulic stone release and spring bolt release respectively. They have hydraulically variable furrow widths. These ploughs have extra equipment for on-land operation.
- He-Va ApS - Stand No. N-1004**
- ★ Combi-Tiller is a compact grubber with hydraulic stone release. Available in operating widths of 3 and 4 m on fixed frames and in 4 and 5 m versions with hydraulic fold-away. The grubbers are fitted with 200 mm wing shares. Operating depth: Down to 30 cm.
 - ★★ King-Rollers are field rollers with operating widths of 12.50 and 15.30 m. The rollers can be fitted with rings of up to 24" and consist of 5 roller sections with central suspension so that these can easily follow field contours. They have a weight dispersal system with a centrally positioned pressure accumulation tank that distributes the weight evenly to the individual roller sections. Conversion between transport and operational positions is effected hydraulically whilst the tractor is standing still.
- JF-Stoll Danmark,
JF-Fabriken - J. Freudendahl A/S - Stand No. N-1012**
- ★★★DK Lemken, type DuraMaxx, is a new type of sub-plough that is constructed without boltholes and other openings. This facilitates the application of hard, long-life steel. The wearing parts are fitted with hooks and split bolts without tool requirements. DuraMaxx is available with solid or grid topsoil plates.
 - ★ Lemken, type Karat 9, is a harrow with operating depths from approximately 5 to 30 cm. Available in operating widths of from 3 to 6 m. The widest model has hydraulic fold-away. The tines can be fitted with various tip widths dependant on the required operating depth. The wearing parts are fitted on a special foot section which is installed on the tips with a mechanical lock pin without tool requirements. All tips have stone release.

- ★ **Kongskilde Industries A/S - Stand No. N-1102**
Kongskilde Terra-D is a rear-mounted compact disc harrow. The discs are suspended in two parallel rows which are installed in sets of 4 on a common axle which has heavy-duty, VibroFlex spring suspension. The operating angle of the discs can be hydraulically adjusted during operation. Operating depth is controlled by a rear packer roller.
- ★ **Kverneland Group Danmark A/S - Stand No. N-1100**
Väderstad Cultus, types 300, 350 and 400 are heavy-duty stubble harrows which are available with lift suspension or in towed versions. Operating widths are 3, 3.5 and 4 m. The operating depth is controlled hydraulically via a packer roller. They are available with fold-away tines for varying working conditions and can be fitted with a „Biodrill“ seed box which blows out the seed via tubes throughout the full width of the machine.
- ★★★EUR **Kvik-Up Harven v/Søren Kjærgård - Stand No. D-3012**
Kvik-Pak is a front-mounted land packer. It can operate to the left, right or in front of the tractor. This land packer can thus be applied in connection with ploughing or as a front packer in connection with sowing. The changeover is hydraulic.
- ★ **Maskinhandler Indkøbsringen Amba - Stand No. N-1118**
Kuhn, types EL 43 and EL 53, rotary cultivators for 40 and 50 hp tractors. These are available with operating widths from 97 to 189 cm. They can be offshot to the right together with the gearbox.
- ★ Kuhn, type Vari Master 182 6F-NSH, is a new turn-wrest plough with 5 or 6 furrows. It is equipped with an Optidrive turn-wrest head that absorbs shock loads during turning and transport. This also safeguards the tractor's rear-axle assembly and lift system.

Sowing and planting of crops

- ★★★DK **Brøns Maskinforretning ApS - Stand No. N-1000**
Amazone, type EDX 9000, is a 12-row, towed maize sower. It has two centrally positioned Xpress dosage units which are electrically operated with infinitely variable revs. It has Xpress seeding shares with channels through which the seed is projected at 11m/s. A special positioning roller ensures that the seed is correctly positioned even at high operating speeds.
- ★ **Fiona Maskinfabrik A/S - Stand No. N-1112**
Seedcom Super Nova FC is a 4 m combi-sower for simultaneous sowing/fertilizing. It is available with various types of cultivation equipment. Primarily, this is a compact disc harrow followed by a crossboard drag plank. The fertilizer is positioned with disc shares at 25 cm intervals and the seed

is positioned at intervals of 12.5 cm with normal sword shares. The seed/fertilizer box capacity is 4,600 litres and has an adjustable divisional wall so that the amounts of fertilizer and seed can be adjusted.

He-Va ApS - Stand No. N-1004

- ★ This synchro-roller for the He-Va Sub-Tiller is a packer roller for grubber sowing of rape-seed. The roller is constructed with 600 mm Ø T-profile rings. Synchronized behind each grubber share/row there is a rubber covering packer with a larger diameter than the T-profile rings. Scrapers are fitted between the packing rings and the rubber packers.

JF-Stoll Danmark,

JF-Fabriken - J. Freudendahl A/S - Stand No. N-1012

- ★★ Lemken, type Compact-Solitair plus, is a combi-sower that can be applied with/without prior ploughing. It can sow/fertilize simultaneously. The fertilizer and seed travel through disc shares. The share pressure is hydraulically adjusted with pistons on each sowing set. This ensures a uniform share pressure. Following the disc section there is a large covering packer roller with large wheels and a diameter of 1.097 m. The wheels also serve as transport wheels. The seed/fertilizer box capacity is 4,500 litres.

Kverneland Group Danmark A/S - Stand No. N-1100

- ★ Väderstad Spirit is a combi-sower that is available in operating widths of 6, 8 and 9 m. The soil is prepared in front with Väderstad System Disc shares. The soil is then packed with rubber wheels. Sowing is effectuated via double disc shares. Seedbox capacity: 3,740 litres.

Scan-Agro A/S - Stand No. M-9610

- ★ Scan-Caddy, type SC6000 XL, is a fertilizer/seed truck which is fitted with a heavy-duty rear-mounted lift with a capacity of 7.5 tons. The truck has a through-going PTO shaft. This enables the installation of, for example, a 6 m rotary harrow sowing unit on the truck. In addition, the truck can be installed with almost all types of sowing systems. This also applies to combi-sowers for seed and fertilizer because the seed box can be divided. The truck is equipped with two dosage units so that it can independently provide dosage of fertilizer and seed.

Spreading of manure

Samson Agro A/S - Stand No. G-4608

- ★★ SG Slurry truck is equipped with a new tow-bar unit of the swan neck type that facilitates sharper turns than that afforded by the traditional triangular tow-bar section. This truck can also provide electronic tank volume reduction. This ensures that the amounts comply with road traffic regulations. The required amount is simply keyed in when filling the truck. A sensor registers

the pressure on the truck suspension and, when the pressure corresponding to the required amount is reached, the filling operation is automatically stopped. This truck is available with hydraulic traction on one set of wheels. It is also available as a twin axle model with a 23 m³ tank and as a triple axle model with a 28 m³ tank.

- ★ This weighing system for fertilizer spreaders consists of a weighing cell which is installed on, for example, the traction triangle of a manure or commercial fertilizer spreader. With a suitable calibration and uniform load this weighing cell can provide a reasonably precise result for the weight of the loaded amount. The weighing cell cannot be applied for dosage.

Thyregod A/S - Stand No. G-4606

- ★★★EUR Biocover is a system for slurry treatment in connection with spreading operations. This system applies a double drag hose system in which 5% of the slurry in one of the drag hoses is treated with acid and sulphactant. The acid results in the formation of considerable foam which stabilizes the sulphactant. This resultant foam covers 95% of the slurry from the other drag hose. Odour emission is thus reduced. The addition of acid lowers the pH value of the slurry so that the ammonia is converted to the more stable ammonium which is directly available for the plants.
- ★ Kimadan slurry truck with hydraulic PTO instead of mechanical PTO. The equipment consists of a separate, heavy-duty oil pump with a high capacity. This facilitates an increased filling capacity with the hydraulic jib pump.
- ★★★DK Kimadan slurry truck, 24 ton RF, is a slurry truck with a triple-axle bogie with a hydraulic suspension Cidra axle. Each side of the truck has independent height adjustment. This means that the truck can be retained in the level position on sloping terrain. It is also possible to lift, for example, the front axle upwards with an empty truck. The entire truck is constructed of stainless steel which facilitates easy cleaning and long-term durability. This truck is fully hydraulic and is powered by its hydraulic system. The distributor has sectional shielding that enables lock-off in the hose boom in sections of 2 or 4 m.

Mechanical weed control

CMN maskintec A/S - Stand No. N-1010

- ★★ CMN Kvik-killer, type KK600s, is a 6 m towed twin harrow with three rotary sections. This system facilitates a narrow transport width. The harrow has three cross-bars with 15 teeth for full cutting effect. The rotary sections have teeth that rotate contra the drive direction for the purpose of lifting couch grass runners up from the soil.

Spraying

- ★ **Brøns Maskinforretning ApS - Stand No. N-1000**
 Amazone/Agri Con, type SX 4000, is a self-propelled field sprayer with EXG 500 automatic control from Trimbel. The sprayer has three types of controls: Front wheel, four wheel and scuttle control. In addition, it has infinitely variable adjustment of track width. The sprayer can automatically open and close for 9 section widths in connection with spraying at headlands and wedges.
- ★★★EUR **Scan-Agro A/S - Stand No. M-9610**
 Scan-Sprayer, type SP4000 HC-174-24, is a self-propelled field sprayer. It is specially constructed to operate in high crops. The tank is divided in two 2,000 litre sections which are positioned as narrow tanks lengthwise between the front and rear wheels. This ensures a low gravity even although the free height between the wheels is 2 to 2.2 m. The engine is a 174 hp Perkins diesel with 4WD and 4-wheel steering. The track width can be hydraulically adjusted from 2 to 3 m. This field sprayer is available with boom widths of up to 40 m.

Irrigation

- ★★★EUR **Fasterholt Maskinfabrik A/S - Stand No. G-4712**
 Fasterholt self-propelled irrigation machine, model FM 4900 Hydro, has a completely new type of traction for the hose drum that makes it possible to precisely adapt recovery speed to drive speed. Hitherto, one or more sliding V-belts have been applied. This system applies an oil engine which is powered by a water turbine. As there is no unnecessary traction on the hose, it is easier for the machine to operate in curves without the hose being moved.

Care of pastures, grass fields, etc.

- ★ **Dal-Bo A/S - Stand No. N-1116**
 The Grass Roller Greenline 300 is a smooth grass field roller which is 3 m wide and is equipped with flails and mole planks. This roller is based on the large Maxiroll Greenline models and can be fitted with sowing equipment.

Choppers, shredders and field silage harvesters

- JF-Stoll Danmark,
JF-Fabriken - J. Freudendahl A/S - Stand No. N-1012
 ★★ JF-Stoll Collector for GXT-triple-mowers, is a swath gathering unit that applies two transverse belts for transport of the harvested material. The belts are positioned behind the mowing machine and can gather grass from 11.6 m widths to a narrow swath in the middle. If the grass is required to be fully spread, the belts can flap upwards.

- ★ **Kverneland Group Danmark A/S - Stand No. N-1100**
Kverneland „Butterfly“, type 5090 MT, is a swath layer with an operating width of 9 m. It consists of one front-mounted and two rear swath layers. It now has a new cutter bar design that permits a larger cutting area. The distance between the cutters and the contra blades has also been reduced so that the grass is cut as sharply as possible to allow faster regrowth. The crimper is updated to Semi-Swing which results in firmer crimping of the grass. The offset power of the crimper flails is increased from a few kg to 22 kg.
- ★ **Maskinhandler Indkøbsringen A.m.b.A - Stand No. N-1118**
Kuhn, type GMD 3110 and 3510, are disc harvesters with OptiDisc cutter bars. This facilitates a small cutting height and better transport of the grass over the cutter bar. The machines are swung in behind the tractor for road transport.

Rakes and tedders

- ★★★DK **Scan-Agro A/S - Stand No. M-9610**
Scan-Rake, type RT950, is a pick-up rake for rake gathering of grass and seed crops for silage plus airing and rake gathering of straw. It consists of three front pick-up units which lift and deliver to three rear belts. The machine is powered by its own hydraulic system via PTO from the tractor. The belts can operate at left or right. These can therefore deliver all the material at one side or half of the material at each side. By gathering all the material at one side and then driving back in the next operation, the machine can gather material from 18 m in one swath. This can also be accomplished by turning the flow direction and driving parallel to the first track. Flow direction can be changed from the tractor seat. The hydraulic effect is reduced to avoid jolting. The design obviates the requirement for holders for retention of the material and broken springs are collected in a magazine instead of lodging fast or ending up in the silage.

Balers

- ★ **Kverneland Group Danmark A/S - Stand No. N-1100**
Kverneland, types 7124 and 7524, are packers for square bales. The model 7124 has three-point suspension and the model 7524 is for towing operation. These are both self-loading packers in which the bale rotates on 2x2 rollers. These ensure that the bale rotates at an even speed. The packers can be applied for bales of various sizes and shapes.

Cleaning, drying, and storage of grain/seed on the farm

- Hybren - Stand No. J1-7208**
- ★★ Hybren „Helix“, type 4000, is a winnowing machine for grain and othertypes of seed. The machine combines mechanical and pneumatic winnowing in a horizontal helical system. The air is drawn in via the central pipe of the helical system.
- Højgaards Maskinfabrik ApS - Stand No. J2-7310**
- ★ Lunding crop agitator for application in floor silos is now fitted with a 5.4 hp motor and a 2.5 m helical conveyor with two different diameters for various crops. The angle of the helical can be varied from 90 to 50 degrees.
- Kongskilde Industries A/S - Stand No. N-1102**
- ★ Kongskilde elbow unit for the OK160 pipeline system which is applied for the pneumatic transport of grain crops. This unit is constructed of high-tensile steel tempered to 50 Rockwell C which is 2.5 to 3 times as durable as ordinary elbow units.

Harvesting, treatment and storage of vegetables/root crops

- Frisk Agro ApS - Stand No. M-9618**
- ★★ BetaCut Beet crusher is designed to crush beets in connection with multi-silage with other crops. It has a capacity of 80 to 100 tons per hour. It is equipped with hydraulic stone protection so that eventual stones in the beets do not cause production stops. It can be powered electrically, hydraulically or via tractor PTO.
- Thyregod A/S - Stand No. G-4606**
- ★★★EUR Thyregod beet lifter, type T7S, is a whole plant lifter. Topping is effectuated with flails and then conveyed up to the tank in which they are mixed with those beets that have been harvested in the normal fashion and cleaned in the lifter with, e.g., a brush cleaning system. The beets then pass through a beet crusher with hydraulic stone protection. The tank is sealed off with a tarpaulin.
- ★★ Thyregod beet cleaner/crusher, type TR7S, is a stationary cleaner and crusher for application in connection with multi-silage of beets with other crops. It can also be applied for cleaning and crushing in connection with daily feeding or for the application of beets in energy production. The crusher rollers have automatic reverse if stones should occur in the machine. It is powered by a 117 hp diesel engine and has a capacity of approximately 55 tons per hour.
- Tolsma Techniek Emmeloord b.v. - Stand No. D-3400**
- ★ Tolsma compact cooler is designed for the cooling of potato stores. It consists

of two 12 kW cooling compressors and two axial fans with 2.2 kW motors which are located in each of two vertical steel pipes. The air from each fan is blown through three smaller pipes up to a height of approximately 6 m and then out over the potatoes.

- ★★ Tolsma mix unit is a complete ventilation installation unit for positioning in the flooring of storage buildings. It is applied for the ventilating/drying of various crops such as potatoes. The unit contains the necessary equipment for ventilating with indoor, outdoor or a combination of indoor/outdoor air. By applying a combination of indoor and outdoor air, the required temperature in the storage area can be attained. The unit is also available in a version with compressor cooling.

Forestry, christmas trees and fruit growing

(see also under Tractors page 4)

- ★ **Interforst K/S - Stand No. B-2114**
FAE teeth for branch crushers are equipped with sharp, hard-metal tips so that these slice the material instead of merely crushing the branches. They can therefore be applied for shredding soft branches, etc.
- ★ PMM/EX branch crusher is hydraulically driven and can be installed on excavators, etc. As it can also be applied for fallow clearance, the application areas are extended to slopes, etc.
- ★ **Linddana A/S - Stand No. B-2118**
A trailer coupling for the type TP 250 PTO, tractor-mounted wood chipper. This facilitates the application of both two-wheeled and four-wheeled trucks for collection of the wood chips.
- ★ TP, type 160 PTO/Mobil, is a tractor-mounted wood chipper. Engagement between the motor and the rotor is effectuated via tightening of the drive belts. A special system ensures correct V-belt tension.
- ★★ TP, type 160 Track, is a wood chipper which is mounted on caterpillar tracks. The track widths can be extended hydraulically so that the outer width can be increased from 900 mm to 1400 mm. This is a definite advantage in difficult terrain conditions.
- ★ **Randløvs Maskinfabrik A/S, Johs. - Stand No. H-6008**
Triumf circular saw with 8 hp petrol motor. This is a transportable circular saw with tilt table in which the electric motor has been replaced by a petrol motor.

Livestock farming

Feed preparation, feeders and drinkers

BM Silofabrik ApS - Stand No. F-5300

- ★ Mineralsilo is a new type of feed silo which is dimensioned for feedstuffs with a high specific gravity. All parts of the silo are made of galvanized steel. It is available in plan measurements of 155x155 cm or 205x205 cm. The aeration system is constructed so that it suits a low air method.
- ★ Rørsnegl Ø 152 is a conveyor helical for the transport of dry matter. All exterior parts of the conveyor worm are made of galvanized steel. It can be supplied with intake and outlet of either Ø 150 mm or Ø 200 mm. The conveyor worm is powered by a spiral gear motor.

BoPil A/S - Stand No. J2-7402

- ★ BoPil-Flexi-Silo is a feed silo consisting of a silo bag and an iron support construction. The silo bag is produced from closely woven polyester. This type of woven material ensures that the silo bag is dust tight whilst the positive pressure, that occurs when filling the feedstuff, can pass unhindered. The silo bag is available with various types of outlets depending on the conveyor worm applied.

Feed preparation, feeders and drinkers - for pigs

AP Company A/S - Stand No. M-9602

- ★★ Aqua Level (second version) is a drinker valve for sows, piglets and porkers. The valve, which is made of PP plastic, is constructed as two bowl halves, a membrane that regulates water flow and an integrated filter to prevent impurities in the drinking water. The connecting branch to the down pipe is designed so that three different types of pipes, ½", 25 mm or 32 mm, can be fitted without tool requirements. The two halves of the bowl can be dismantled and re-assembled without tool requirements. This facilitates easy cleaning.

BoPil A/S - Stand No. J2-7402

- ★ BoPil-ESF 7So, -ESF 7Gylt, -ESF 7Poltt, transponder feeding points (ESF) in 3 versions for, respectively, sows, young sows and porkers. These are of a new design and apply new materials. For example: Fibreglass reinforced solid box walls, legs and frames in stainless steel and the troughs are protected by solid plast plating. The technical parts are collected in a confined area and encased to contribute towards easier cleaning. The feeding points are delivered in only a few sections to save on storage space and transport costs.
- ★ BoPil Visual Spotmix is a control program based on Windows CE technology

which effectuates functions control and user control in the same system. The visual program system makes it easier for the user to monitor the function of the mixing/feeding system.

Danish Farm Design A/S - Stand No. K-8205

- ★★★EUR Medliq® is a medicine dosage concept that has been developed for wet feeding systems. This concept ensures that medicine can be provided in doses to selected pens with sick pigs. It consists of a dosage concept which is installed on the down pipe below the wet feed valve for the individual pen. The dosage unit involves an electronic unit for dosage control and a container for mixed medicine. The medicine will typically be provided in 3-4 feeding periods per day and is mixed in the feed throughout the full length of the trough. In addition, the concept includes a dosage schema, for the most typical medicines applied in pig production, which indicates dosage amounts in relation to the ages and weights of the pigs, plus an automatic flushing system for cleaning the dosage container. Medliq® is a universal concept that can be installed on all brands of wet feeding systems available on the market.

Sdr. Vissing Staldinventar A/S - Stand No. L-9230

- ★★ Restrictive dry feeding, Ad-lib division. Pen divisions, with a built-in dry feeding system, which are positioned above a trough. This system is based on a horizontal flexible helical conveyor that is located in a pipe above the installations. The pipe containing the flexible conveyor is filled with feed by the conveyor. The pipe is equipped with a number of openings matching the length of the trough. When the pipe is filled with feed, it turns 180 degrees so that the openings are now in the bottom position. The flexible conveyor then operates a number of revolutions so that the feed between the openings fall down into the trough. An automatic pipe feeding unit can be integrated in the installations. This is filled with feed via the flexible conveyor. This can be applied during periods in which there is no requirement for restrictive feeding. The feed amount is controlled via PC and portable terminal so that the feed volume can be adjusted out in the sty and automatically on the basis of a pre-set graphic value.
- ★ This non-corrosive drinking system is a newly developed valve holder for drinking water supply in pig sties. The valve holder, which is made of a plastic material, consists of two parts which are fitted on each side of a division between two pens and is assembled with stainless-steel bolts. Two valves can be installed in each valve holder so that two pens can be supplied with drinking water via a single pipeline.
- Weda Danmark A/S - Stand No. J2-7400**
- ★ Conticomp BW+, complete wet feeding system for pigs including suckling pigs and weaners. This involves a new construction and composition of the wet feeding system so that the same system can handle mixes of from 5

to 12,000 kg. The numbers and sizes of the mixing tanks is adapted to the grouping and size of the herd. The fact that the "used water" tank is a joint supply tank, means that all "used water" is re-used for the sows and not to the younger pigs. The younger pigs always receive wet feed based on fresh water.

- ★ Excellent 4PX is a newly developed control program for wet feeding systems. The program is operated without a keyboard via a touch screen. The system is presented as process illustrations in which the actual valves and switches are depicted. By pointing at an illustration of a valve it can be switched on or off. The day plan for feeding operations can be split up so that the various tasks can be carried out independently of each other. This program is equipped with 9 languages which are activated by pointing at the national flags on the screen.

Ventilation, air purification, housing climate, heating, alarms

Pro-Air A/S - Stand No. K-8017

- ★★★EUR Pro-Air Cooling high pressure system for cooling and humidifying in livestock housing is now further developed in several areas. Safe Cool is a completely new control for the system. In comparison with other controls on the market, this applies a constant ON time and variable OFF time. The constant ON time ensures against moisture and chilling in the livestock areas and is thus a greatly improved control of the indoor climate. In comparison with former products from Pro-Air, the system has been developed in several other areas. The system can now be built up with a new series of high pressure pumps, magnetic valves with integrated bleed-off valves, a pipeline system for distribution of water in the pen sections and nozzles for atomization of the water in the pen sections. The pumps are supplied with a reduction gear which reduces both noise and wear-and-tear. In cases in which the system is applied in sectioned pens, it can be supplied with a pump self-starter which reduces system costs and complexity of pump control. The pipeline system is now available in a plastic version which reduces costs in comparison with steel pipelines. Magnetic valves with integrated bleed-off valves prevent dripping from the nozzles and calcification problems.

Skiold A/S - Stand No. J2-7418

- ★★★EUR Skiold CleanTube is a newly developed filter for purifying ventilation air in livestock housing. The filter is constructed as a tubular fibreglass matrix which is installed in a standard ventilation shaft. Clean water is supplied to the top of the filter via seepage tubes. The special design of the filter ensures that the biologically active surface on which the micro-organisms are located is in direct contact with the ventilation air. This ensures that odour particles and ammonia are efficiently removed. The addition of the water takes place in the fibreglass matrix and thus below the bio-film. This means that the liquid flow in the filter is greatly limited and thus obviates requirements for

recirculation of water. The design of the filter also ensures that the airflow is extremely even. This prevents blockages of the filter caused by dust from the ventilation air.

- ★ Skiold Staldvarme is a new range of products for space heating and floor heating in pig houses. This range of products consists of ribbed pipes for the dispersion of space heating plus a regulation unit with shunt valve and circulation pump. The regulation unit is fitted onto a plate which simplifies installation.

Skov A/S - Stand No. K-8210

- ★ DOL 234 behaviour regulation is a new function in the DOL 234 climate computer. The function "behaviour regulation" facilitates that the pig producer can manually activate the shower function for a pre-set period to relieve problems regarding filth and soiling in the pens. When the pre-set period has ended, the computer is automatically re-set to the normal program. The pig producer is thus not required to remember to change the settings on the computer.

- ★★ DOL 234 climate computer is newly developed regarding a number of new functions in order to comply with special requirements from large pig herds. It can now regulate up to 500 wall vents (formerly 250) linked to four air inlets. The computer can infinitely regulate four air exhausts which, as an entirely new feature, enable the application of MultiStep® in connection with combined floor and roof air exhausts. In addition, it is possible to connect four water gauges which enable the registration of water consumption from various groups of pigs. The computer can be set to turn off the water supply and provide an alarm if abnormal water consumption is registered. A new ventilation chimney has also been developed. This is the DA 920 and has a capacity of 26,000 m³ per hour.

VengSystem - Stand No. M-9502

- ★★ VengSystem intelligent Hi-Lo ventilation is a new control method for ventilation systems that reduces power requirements for ventilation by 5 percent on an annual basis. This saving is attained by the air outlets being supplied with electricity via a joint frequency regulation during the winter, when there is a lower ventilation requirement, whereas the electricity is connected directly to the fans during the summer period. By controlling the ventilation in accordance with the concentration of CO₂ in the livestock housing, one is sure that the air quality is as it should be and that the heat consumption is not excessive due to increased wind sensitivity with lower fan revs during the winter period.
- ★ VE 110 temperature sensor is a further development of the wireless temperature sensor for livestock transport. This temperature sensor is designed for installing in deck divisions in transport trucks and trailers applied for the transport of pigs over longer distances. The innovation consists of the

sensors being shielded from the heat effect of the deck in which they are installed so that it is only the air space heat which is measured. The sensors are also bite-proof. Finally, the wireless transmission unit has been developed so that the radio signal can be received regardless as to the design of the truck or trailer or the number of pigs in the transport vehicle.

- ★★ VE 122B is a further development of a heating lamp control. The IR sensor that regulates the heating lamp is now fitted with a longer cable and has a smaller measurement area. The sensor is installed on the farrowing bar and activated prior to the actual farrowing. When farrowing starts and the first piglets are delivered, the sensor registers an increase in temperature and the heating lamp is switched on in the covered creep area. The sensor is then moved back to the covered creep area. As the normal practice is to switch on the heating lamp a few days prior to the anticipated farrowing time, a great deal of power can be saved by applying this new control sensor unit. Via a bus cable and the VE120 Farrowing Central, the personnel can centrally register in which farrowing pens the heating lamps have been switched on.

Milking

- ★ **CellKim ApS - Stand No. L-9112**
Cell-spray is a hand-operated/battery powered udder spray. The spray has an ergonomic design and is operated with a light squeeze. The battery is rechargeable and has approximately 3 hours of operation. The el-powered udder spray will ease the work of the milker in comparison to the traditional manual spray.
- ★ **Compex - Stand No. L-9206**
Cow Towel is paper towelling in single sheets for preparing the udders for milking. The special surface of these towels ensures good cleaning of the udders and teats and simultaneously stimulates the teats. There is a special towel dispenser for a milking apron. The towels are thus always at hand and it is easy to use a new towel sheet for each cow. The paper material is biodegradable and can therefore be thrown into the slurry.

Chopping and spreading of straw

- ★ **Jørgen Hyldgård Staldservice A/S - Stand No. K-8115**
JHminiStrø-Cutter is a fully-automatic litter spreader for cattle and pig houses. The machine consists of a bale magazine that can accommodate one or more mini big bales depending on the magazine length desired, a chopping section with 110 blades and cutter bars fitted horizontally and replaceable stainless steel grids which determine the chopping length of the straw from 2-15 cm. This litter spreader can be supplied with a suction

unit to avoid dust problems throughout the entire operation. The machine is equipped with a stone trap and automatic fire-fighting equipment and is powered by a 5.4 hp electric motor.

Dung clearance, treatment and storage of manure/slurry

- Højgaards Maskinfabrik ApS - Stand No. J2-7310**
- ★★ HM Automanure is an automatic slurry system for pig houses. This system, which can be applied for both new and existing slurry systems, is constructed from a number of standard components. These involve pneumatic or electrically controlled valves and taps, a number of electric pumps and agitators plus a PLC control. This system can automatically empty the slurry channels, effectuate reverse flushing and pump the slurry from the collection tank to the storage tank.
- Ph-produkter A/S - Stand No. M-9626**
- ★ Biofilter for aeration Ø 110/160, type PhBFL08, is a bio filter for purification of air from slurry systems. The filter consists of a filter unit that is installed in the pressurized pipes of the slurry system. The filter is poded with a Bioweb® SanPlus/KS bacteria culture that breaks down the odour substances in the air which is pressed out through the pressurized pipes when the slurry passes through the system.
- ★★★EUR This Stop Plug for slurry systems, type PhKP08, is a newly developed stop plug that consists of a solid plastic cover, a rubber membrane and a closing mechanism. The stop plug is installed in the down pipes of the slurry system. The closing mechanism is then twisted round and the membrane on the underside of the stop plug is activated. When the stop plug is exposed to pressure from the flow of slurry elsewhere in the system, the membrane prevents the stop plug from being forced open. This ensures an improved flow, due to the attainment of a stable pressure/vacuum in the system, reduces the risk of hydrogen sulphide emission and generally simplifies the work involved in the removal of the slurry.

Fittings, installations and building components - for cattle

- Cow-Shopping Cow-Welfare A/S - Stand No. M 9625**
- ★★★EUR Green Stall is a newly developed cubicle bar for cows. The cubicle bar consists of two sections. The first is a box divider consisting of a spring-suspension fibreglass reinforced plastic boom and the other section is a movable neck boom with individual flexibility for each cubicle. This gives the cow increased freedom in the cubicle. Green Stall represents new thinking, regarding the design of cubicle bars for cows, in that the equipment compensates for the individual cow - regardless of the cow's height and size.

- ★★ **Perstrup Beton Industri A/S - Stand No. K-8000**
Perstrup scraper flooring is manufactured as prefabricated concrete elements with slots at each 550 mm. The slots have 35 mm openings at the top and 100 mm at the bottom. The slot length is 350 mm. The elements have a slope of 1 percent towards the middle of the upper surface. These are applied in combination with Perstrup's element flooring and are used for the intermediate transport of slurry so that one can avoid the large amounts of slurry that normally face the scraper. This provides an improved scraping of the floors and ensures that the livestock is cleaner and have fewer hoof and limb problems.
- ★★ **Thisted-Fjerritslev Cementvarefabrik A/S - Stand No. M-9620**
Prefabricated, self-draining scraper flooring involves drainage plates for gangway areas in cattle housing with solid floors. The drainage plates are positioned lengthwise to the scraper direction. There will thus always be drainage of the slurry in front of the scraper. This avoids the large amounts of slurry which are normally immediately in front of the scraper. This provides an improved scraping of the floors and ensures that the livestock is cleaner and have fewer hoof and limb problems.

Fittings, installations and building components - for pigs

- ★ **DanBox Danmark ApS - Stand No. L-9126**
Automatic straw dispenser/wood container with rooting and occupational material for pigs. This is a combination dispenser which is designed for provision of straw and wood. The automatic dispenser is constructed from 12 mm plastic plating with openings at the base for wood and a grid in front for the straw.
- ★ **Nordic Stald Kemi ApS - Stand No. J2-7406**
NSK Pen Flooring with double layer surfacing. This is new flooring for farrowing pens which is designed to prevent shoulder sores occurring on sows. The double surfacing consists of a sand-blasted primer and a top surface consisting of a liquid, thermosetting plastic substance. Following the hardening stage, the surface obviates joints and is elastic and mechanically adhered to the concrete underlay. If any mechanical damage should occur, then spot repairs can easily be effectuated.
- ★ **Sdr. Vissing Staldinventar A/S - Stand No. L-9230**
Gestation box for loose operation sows, type self-restriction box, model 2008. This is a new mating and gestation box in which access and space conditions for the operator are given high priority. In addition, the sides of the box consist of vertical bars to avoid the sows irritating one another during feeding periods. The rear part of the box can be adjusted to act as a mating box or self-restriction box.

- ★★★EUR Farrowing pen, type Combisti model 2008, is a new farrowing pen with innovations to ensure high efficiency and improved livestock welfare. The construction has been changed so that there are no longer support legs at the rear of the box and the centrally positioned box provides the piglets with easy access to the teats. The depth of the trough has been increased for improved access and the covered creep area is divided into two sections with a total area of 1 m².

Fittings, installations and building components - for poultry

- ★ **Landmeco A/S - Stand No. K-8126**
Harmony Combo 2 is a further development of Harmony Standard and Harmony Combo 1. The Harmony Combo 2 particularly facilitates improved usage of narrow and wide poultry houses. This is due to the fact that the nests are integrated in the lower levels of the system - instead of separately positioned at the side of the system or integrated at the side of the system. This improves both surveillance and the ability of the hens to move around in the system.

Articles/tools for livestock farming

- ★★★EUR **ChemVet dk A/S - Stand No. M-9705**
Hatting KS - Stand No. M-9701
AcuShot™ needle-free injection is a fully transportable needle-free injection system for the injection of vitamins, vaccines and other medicaments. The injection fluid flows through a tiny opening in a fine jet. The pressurized jet can penetrate the skin and continue under the skin to the muscle. The injection volume is electronically variable at all levels between 0.2 ml and 2.5 ml. Injection is effectuated by holding the hand-set against the pig's skin and then releasing the trigger. AcuShot has an integrated computer which, for example, controls injection volume, registration of injection and medicament consumption. Data can be transferred to a PC via a USB cable. Needle-free injection prevents the occurrence of broken needles in the carcass.
- ★★★EUR **Grene - Stand No. H-6114**
Toku-E Traceable hypodermic needles with blockage/stop. This new needle design with an integrated stop/blockage ensures that the needle does not disappear into the livestock if the needle breaks. In the event of incorrect pressure, the Toku-E needle will always break off at the holder due to the positioning of the weakest point. This innovation ensures that the farmer or vet will always be able to retrieve the broken needle from the livestock. Toku-E traceable needles are available in various sizes.

Klovplejeboksen.dk - Stand No. L-9226**Vitfoss - Stand No. L-9227**

- ★★★EUR FeetFirst® Trimming Box is a hoof trimming box for sows. The box is equipped with a pad/cushion which is placed under the sow's belly/stomach. When the sow is positioned in the box and the box is elevated, the sow lies quietly on the pad with its legs raised from the floor. The sow's hoofs can then be inspected and trimmed without having to fasten its legs. The box is 2 m long and 50 cm wide. Wheels can be fitted on the box so that it can be moved around the pig house.

Unitron A/S - Stand No. L-9314

- ★ Stimulus version 02 is a new construction of Stimulus. The apparatus is operated by power from an integrated battery and compressed air installation. This new version has, amongst other new features, an integrated steam trap that ensures that condensed water from the compressed air is removed so that this cannot spoil this technology. The farmer is also able to replace the battery. The Stimulus version 01 can be up-dated to this new version.

Feeds and additives - for pigs**Aarhusegnens Andel A.m.b.A - Stand No. K-8208**

- ★★ Cikodan functional feed is a multi-fibre product with an optimum ratio between oligo and poly saccharides including mucopoly saccharides. It consists of a mixture of dried chicory root, soya fibre and new*add. This product increases the amount of lactic acid bacteria in the intestinal system and thus reduces the formation of harmful bacteria. The purpose of this product is to promote intestinal health, particularly in newly weaned piglets and thus enable a lower consumption of zinc oxide and antibiotics.

Ringsted & Semler A/S - Stand No. K-8301

- ★ Ding Su feed additives: Sodium butyrate, i.e., sodium salt of butyric acid. The butyric acid stimulates growth of intestinal epithelial cells. The purpose of this product is to reduce the risk of diarrhoea.

Feeds and additives - for horses**Unitron A/S - Stand No. L-9314**

- ★ Horse Vimix Antioxidant, vitamins and minerals for horses. This is a product for horses that have been subjected to stress in the form of sickness, training or injury. The product should be administered 2 to 3 times per week and can thus also be applied for horses that do not receive additives on a daily basis.

Other production aids for livestock farming

- ★ **CellKim ApS - Stand No. L-9112**
Sex-determined semen from beef cattle bulls facilitates faster breeding progress/herd expansion. This can ease the demand for female stock and provide less calving problems for beef cattle cows.
- ★ **Grene - Stand No. H-6114**
Rep-X and Krusan Rep Pasta Plaster is a fluid sore healing and disinfecting plaster with a considerable adhesive effect on the hide. The plaster is water-proof and thus protects the sores from, e.g., water, urine, excrement and physical strain. Sores and inflammation areas are to be completely covered when initiating the treatment. The condition should thereafter be inspected daily and supplementary plaster applied if the area is not completely covered. The pasta contains, among other ingredients, zinc oxide, a plant extract and a disinfection agent. It is recommended to use disposable gloves when applying the pasta plaster as it can be difficult to remove.
- ★★★EUR **HG Danmark - Stand No. L-9320**
inSire® is the trademark for bulls in the international cattle breeding organization, CRV b.v., formerly HG. These bulls are selected with the aid of gene markers. The purpose of this new method is the attainment of increased security and faster breeding progress regarding the heritable qualities - particularly those relating to low heredity levels. Breeding progress can be increased by 30 to 50 percent - depending on the breeding programme applied. Each year, CRV screens more than 1,500 bulls throughout the world. 300 of these bulls will be tested for application in breeding operations as inSire® bulls. Bull dams will also be screened for gene marker information so that the best cows can be selected for intensive breeding. From September 2008, all Holstein and Jersey young bulls in the CRV breeding programme will be selected on the basis of gene markers.
The breeding organization started employing this new technology in breeding programmes in Europe, New Zealand and Brazil in 2007 and, from June 2008, the method was introduced in New Zealand on a commercial basis. This new technology has been developed in cooperation between CRV Holding b.v. in Arnhem, Holland and the Liège University, Belgium. The method is founded on the development of the multi-national company Illuminia, in cooperation with organizations in the USA and Canada, regarding a new marker set with 60,000 DNA markers for application in international breeding work.
- ★ **Klauwkallons®** hoof treatment agent is a hydroscopic granulate and hoof bandage. The dehydrating granulate is spread out on the bandage and in the cleft of the hoof prior to applying the bandage.
- ★★★EUR **VikingGenetics - Stand No. Q-9900**
GenVik® is a "genetic tool" for application in practical breeding work and

for the selection of the best breeding stock for cattle farming with the aid of genomic selection. Via blood and tissue samples, this method enables the determination of the cattle's breeding quality level when the animal is born. In this manner, very young bull calves and cow calves can be selected for breeding purposes with a much higher degree of certainty than has previously been possible. The best young bulls can be applied far in advance of traditional test evaluation which requires 3 to 4 years. It is calculated that this method gives an annual breeding progress of at least 50 percent. It is also simultaneously possible to detect gene markers for healthy, durable dairy cows.

In particular, this method improves certainty for qualities with low heredity such as udder health and fertility. In the Nordic countries, in which there is a tradition for the registration and application of data regarding udder health and fertility in cattle herds, the method is of particular importance because this health data is applied together with the gene markers. The method is also important for all other quality factors in the total economy index such as yield, calving ability and mastitis resistance. This new technology can counteract in-breeding. In addition it can, in the long run, change breeding work to such a degree, that it will be affordable to include new quality factors such as feed conversion when evaluating the cattle's breeding value.

This method has been developed by Viking Genetics in cooperation with the DJF Faculty of Agricultural Sciences in the University of Aarhus. The method is founded on the development of the multi-national company Illuminia, in cooperation with organizations in the USA and Canada, regarding a new marker set with 60,000 DNA markers for application in international breeding work.

Pens/folds/fencing

Poda A/S - Stand No. B-2000

- ★★ Poda Capture Pen elements for cattle and horses are galvanized elements in a flexible system which can be adapted to suit terrain conditions. It can be linked with chains and is therefore easy to assemble and dismantle in innumerable combinations. The elements consist of tubular grids in oval profiles that have rounded edges. The base of each element is equipped with bars in the corners which function as handles and make it easy to pull the elements along the ground without incurring heavy lifts.
- ★ Poda Telescopic Gate. This is a galvanized fencing gate with variable length. The gate consists of tubular grid units in which the one end of the gate can slid into the other and thus be adjusted to various lengths. This gate has important applications - particularly for existing fence openings.

Farm buildings

- ★ **DanBox Danmark ApS - Stand No. L-9126**
 These welfare facilities are integrated in a pavilion that can be constructed in accordance with requirements and adapted for conditions, for example, roof slope, outer wall facings, etc. The pavilion can be equipped with a cleaning system that only requires percolation channels/fascines.
- ★★ **Lamelspær - Stand No. E-4222**
 Rafter frames for industrial and agricultural halls. Wooden rafter frames are assembled with toothed plates with teeth on both sides. This is a sandwich construction in which the purpose of the application of the toothed plate is to attain an optimum exchange force between the various wooden sections with a low application of materials and a concealed double-sided toothed plate. This toothed plate is a newly developed construction fitting.
- ★ **Poda A/S - Stand No. B-2000**
 Code Lock is a combination of a reinforced sliding bolt and an unpickable combination lock. One of the advantages of this code lock is that one does not require a key. The bolt is made of steel and is 10 mm thick.
- ★★ **Proficover Aps - Stand No. L-9318**
 Steel hall covered with sheeting is a climate screen for livestock housing consisting of a bearing construction in IPE steel profiles covered with fire-proof, reinforced PVC sheeting. The construction does not apply purlins and fixed facings. The steel construction is solely stabilized with cross-struts and spacer rods. Above the steel profiles there are aluminium profiles for drawing the sheeting. The sheeting is stretched lengthwise by tighteners installed at the base of the roof. One side ends at the top in an arch construction that continues over the roof ridge and covers the open discharge. The sheeting is transparent and thus provides a high light volume in the livestock housing. The gables can also be supplied in PVC or in accordance with special wishes.

Power and heating

- ★★★EUR **Anteco A/S - Stand No. F-5400**
 Oklima SE 400/Arcotherm EC 105 is a newly developed, mobile heating canon with four flue gas inflections in the combustion chamber. This new combustion chamber has made it possible to increase output whilst retaining a high exploitation of energy without any significant changes being required regarding the dimensions of the heater. A new electronic control ensures a controlled and moderate start of the combustion so that the combustion chamber is not overloaded. The Oklima heating canon has a separate fan for the combustion air. In dusty environments, it is beneficial for both ope-

ration and safety that external fresh air can be applied for combustion. The heated air fan has two-stage operation and can thus be adapted to various operational conditions. This heating canon is manufactured by Biemmedue SpA, Cherasco, Italy.

- BSM Biofyringsanlæg - Stand No. J1-7204**
- ★★ HDG Compact, types 25/35, are two fully-automatic wood chip furnace systems for forestry wood chips. These are 25 kW and 35 kW. In addition to automatic start, the furnace is equipped with automatic, mechanical clearing of the heating surfaces in the boiler. Wood chip handling and fuel stoking are built up with the same heavy-duty components which are applied for large wood chip systems. The HDG Compact, types 25/35 are manufactured by HDG Bavaria, Germany.
- KSM-Stoker - Stand No. J1-7120**
- ★ KSM-Multistoker 175-13 is a small, compact stoker furnace with 13 kW. The boiler is equipped with a semi-automatic flue tube cleaner so that one only has to pull a handle to clean the boiler. It can also be equipped with a moveable base in the chamber and automatic ash removal. The Multistoker is manufactured by KSM-Stoker.
- ★ KSM-Webcontrol is a WEB kit, that enables the monitoring and adjustment of the stoker furnace via PC and Internet. The system can be extended with up to 18 different alarms which can also be transmitted as SMS messages to a cell phone. A PDA or smart-phone can also be applied for monitoring and adjustment of the stoker furnace.
- Liagro A/S - Stand No. J1-7006**
- ★★★EUR Benekov S 25 and S 50 wood chip stokers are equipped with a new, patents applied burner head. The material in the burner head expands when it is heated up and contracts when it is cooled down This prevents cinders caking on the burner head. The furnaces can communicate with a heat buffer tank and are equipped with automatic start firing. Wood chips, sawdust and various types of pellet fuels can be applied. The Model S 50 is supplied with an octagonal self-build magazine that can be expanded up to a capacity of 20 m³. Benekov S 25 and S 50 are manufactured by Liagro A/S.
- Overdahl Kedler ApS, Hjallerup - Stand No. J1-7116**
- ★★★EUR Overdahl automatic door opening system for straw-fired furnaces is a system that consists of a PLC, a remote operation unit, a hydraulic pump station and two hydraulic cylinders. When the tractor operator approaches the furnace with a straw bale he operates the remote control which opens the furnace door at an angle of 90 degrees. When the bale is placed in the furnace, the tractor operator again activates the remote control and the door closes and locks automatically.

The PLC can also control a system for automatic ash removal. When the straw

bale is placed in the furnace, the ash is pushed down into a worm conveyor in the bottom of the combustion chamber. For example, ash removal can be programmed to start when the automatic door opening system is activated. Ash removal will stop after a pre-set interval (one minute) or when the door is again closed and locked.

A third application of the PLC is for the automatic firing of the straw bales in the furnace. Automatic start is effectuated with an oil burner that is installed at the rear end of the boiler. Via a leading flange, a spade valve separates the oil burner from the actual combustion chamber. Firing can be activated either in connection with stoking of a straw bale when the automatic door opener is functioning or the PLC can be programmed to activate the oil burner at another randomly selected time - for example, during the night.

- ★★★EUR Overdahl Dosage with Spring system is a silo feeder for wood chips with an automatic wood chip separation system. The silo feeder is a dosage and conveyor worm unit. At the end of the conveyor worm and prior to the gear, a 600 mm long separator is installed. At the first part of the separator there is an opening (discharge branch) in the bottom of the feed conveyor pipe. The bottom of the feed conveyor pipe is then removed so that long wood chips (sticks, etc.), which cannot pass through the feed branch and down into the stoker, continue further along and finally fall down and are thus separated. The separator opening in the worm conveyor pipe is 140x300 mm. The silo feeder and the conveyor worm including the separator are powered by a small 0.25 kW electric motor. This system is manufactured by Overdahl.

Scanboiler Varmeteknik A/S - Stand No. J1-7104

- ★ Herz ground heat pump fluid/water is a heating pump that can control up to four heating circuits and the secondary side of the pump. For example, the heating pump can be connected to hot water tanks, storage tanks, solar panels, etc. The effect is 18.7 kW. The pump has a modular construction and does not require professional installation. This heating pump is manufactured by Herz Feuerungstechnik, Austria.

Water and sanitation

WiseCon A/S - Stand No. J3-7704

- ★★★EUR Wise Trap, type intelligent rat trap, is a patented rat trap for positioning in drainage/sewage pipes. When a rat passes the trap, the rat's movement and body heat releases a group of spears via sensors and the rat is killed. The spears are then automatically returned to the original position and the trap is once again ready for operation. The dead rat is flushed out with the drainage water. One can fit this rat trap in a drainage/sewage pipe from the ground level with an installation rod. The trap is calibrated to the actual dimensions of the drainage/sewage pipe. This trap is powered by a battery and its functions are controlled by a unit which is positioned under the ces-

spool cover. Data from the trap is transmitted via SMS/GSM modem. This provides, for example, information regarding battery level plus total number of activations since the battery was replaced. Information is also received regarding operational stops and overflow in the cesspool.

Wise Trap is the world's first intelligent rat trap that kills rats without the application of poisons. This information was provided by WiseCon A/S, Denmark. The company developed this trap and initiated production in the summer of 2008. This trap operates efficiently and also functions as a rat barrier. This is documented by tests effectuated by the Danish Pest Infestation Laboratory which is a section of the Department of Integrated Pest Management in the DJF Faculty of Agricultural Sciences, University of Aarhus, Denmark.

Farm management, service and communication

BoPil A/S - Stand No. J2-7402

- ★★★EUR Argus welfare system, BoPil Pig Finder, is a newly developed system for quick localization of individual sows in a gestation pen with loose sows with transponder feeding. The system consists of a number of transponders being positioned at various points in the pen. The transponders register the sows with the aid of special eartags. By comparing registrations from several transponders with a reference point, the individual sow can be immediately localized. The movement patterns of the sows in the pen can also be charted. This facilitates the registration of movement patterns and sharpens the farmer's attention regarding sows that move in an unusual manner. Pig Finder simplifies the location of sows in large pens with transponder feeding.

CowDetect Aps - Stand No. E-4402

- ★★★EUR CowDetect 1.0 is a management tool which registers the individual cow's movement patterns in cattle houses. The system registers the movement patterns for the individual cow and can thus define time for feeding, resting, milking and other time consumption in the cattle housing. The registration is effectuated with the aid of real-time surveillance via a monitoring unit placed on the cow's neck. The actual location of the cow is provided in 3 dimensions (X, Y and Z coordinates) with an accuracy of 10 cm. This system has not previously been marketed for commercial purposes.

Dansk Landbrugsrådgivning, Landscentret - Stand No. E-4112

- ★★ DLBR INVE Online is an internet-based investment analysis program which is accessible via web browser. The program is applied to evaluate the economy of contemplated investments so that the economic consequences are known prior to the investments being made. INVE Online can analyze combined investments, e.g., the total investments of livestock housing including installations, livestock herd, etc.
- ★ DLBR Mark Online is a new modern IT tool for application in field and crop

planning plus the registration of all work operations - including consumption of input materials and measured yields from plant production. All data is collated on a central data base.

- ★ DLBR NorFor Version 3.0 is an IT program package which enables the Danish cattle farmers to plan their feeding with the joint Nordic feedstuff evaluation system NorFor. DLBR NorFor provides Danish cattle farmers with the latest know-how, concerning the inter-relations of the feedstuffs, integrated in their planning and follow-up tools. The program is extended with feedstuff control and feeding plans to include young stock. In addition, this is an internet customer solution that ensures that the program is always up-to-date and applies the latest calculation models.
- ★ DLBR Ø90 Online includes an invoicing module that can be applied online by farmers, agricultural machine contractors and company owners in connection with customer invoicing. The user can design own invoices with illustrations, logotype and text. The information secures automatic book-keeping and comparison with cash registration provides the user with surveillance of all outstanding payments.
- ★★ NetStaldPlan is an internet-based dialogue tool for the application of farmers and consultants in the early stages of contemplated livestock housing projects. The farmer can present simple, accurately dimensioned 3D models of existing buildings, slurry tanks and silos and position a 3D model of the new building in relation to the existing layout. The new building can be presented with estimated dimensions via selection of housing types and production methods.
- ★★ **Skov A/S - Stand No. K-8210**
FarmOnline is a new program from Skov A/S for the management of pig and poultry production. With the aid of this new program, the farmer attains a survey of the production via a photograph or drawing of the farm. He can then click onwards via graphic presentation of individual livestock buildings and pen sections to their production data. FarmOnline has live network links to the housing computers. There are thus no requirements for data collation or data processing between the housing computer and PC. An alarm will immediately be presented on the PC screen and FarmOnline enables a reaction to the alarm directly from the PC. In order to facilitate application of this new program with older housing computers, Skov A/S has also launched a FarmOnline WebLink.

Working environment

- ★★ **Jacobsen A/S, Erik - Stand No. H-6312**
Grammer VibroControl is a vibration measuring instrument for the reading of full body vibrations in mobile work vehicles. This is a small handy product

which is easy to install and is battery operated with wireless operation. The VibroControl can, for example, be installed on the driving seat of a tractor from which it collates data regarding vibrations in all axle direction. This data is later transmitted via USB to an ordinary Excel document.

Transport

- ★ **Ålö Danmark A/S - Stand No. D-3102**
 Ålö ESV (Electric Speed Valve) is a special valve which is activated by the front-loader's fourth hydraulic function. When activating, the oil flow to the implement cylinder is short-circuited so that the cylinder is in the float position. This makes it easier for the implement to follow terrain contours or to release, e.g., a big bale.
- ★ Ålö Powergrab™ is a front-loader grab with top grip. The grab has a conical construction to simplify unloading. The top grip can be opened so that it can be operated directly into a silo wall. It is available in 4 sizes from 185-260 cm.
- ★ **Helms TMT-Centret A/S - Stand No. C-2504**
 Schäffer 2021, 2021 mini, 2027, 2336, 2345, 3345, 3350 and 3360 are hydrostatic driven angle-steered miniloaders with hydrostatic drive pedals. This facilitates speed changes without altering motor revs. The miniloaders have, respectively, the following motors: 20 hp, 20 hp, 26 hp, 36 hp, 45 hp, 45 hp, 50 hp and 60 hp. On the five largest models, the entire operator platform has rubber suspension and is protected by a new ROPS railing.
- ★ Schäffer 4350, 4360, 4350Z and 4360Z are hydrostatic driven, angle-steered miniloaders. This facilitates speed changes without altering motor revs. These miniloaders have, respectively the following motors: 50 hp and 60 hp. They are equipped with a new ROPS platform railing.
- ★ Schäffer 5370Z, 5390Z, and 9300Z are hydrostatic driven, angle steered loading machines with, respectively, the following motors: 70 hp, 86 hp and 102 hp. They are now equipped with new SCV cabins with a noise level of only 72 dB(A).
- ★ **Kongee Trailercenter A/S - Stand No. F-5218**
 Humbaur types HTK3500.31 and HTK3500.37 are bogie trailers with 3-way tipping. On the smallest model, tipping is effectuated by a hydraulic manual pump. The larger model is equipped with an electric tipping pump. The chassis and base is constructed of hot-galvanized steel plates which are powder enamelled. The sides are of aluminium. The trailers are available with total weights of 2500, 3000 or 3500 kg. There is an electro-hydraulic pump on the trailer which is powered by a separate battery. They can be delivered

with integrated aluminium ramps with a load capacity of up to 2800 kg.

- ★ **KT Maskiner ApS - Stand No. H-6000**
Uni-Loader, type 85 DY-H, is a miniloader with steering on all four wheels. This provides more stability than the angle-steered miniloaders. It has a width of 85 cm.
- ★ **Randløvs Maskinfabrik A/S, Johs. - Stand No. H-6008**
Triumpf conveyor belt with V-shaped belt is a rubber belt conveyor with rollers that lift the sides of the belt.
- ★ **Thule Trailers - Stand No. B-2104**
Brenderup sheep trailer. This is a closed auto-trailer for approximately 10 sheep.

Spare parts and equipment

- for tractors, ATVs, machines and implements for arable farming, forestry, roads, green areas and contractor work

- ★ **Trelleborg Wheel Systems A/S - Stand No. G-4604**
Trelleborg Agroforest T410 is a new tyre that has been specially developed for agricultural and forestry purposes. It has special heavy side walls so that it can better withstand the stresses to which tyres are subjected during driving in woodlands, etc. This new tyre is available in 11 different sizes from 320/85-24 to 520/85-38.

Care of hedgerows

- ★★ **Elkær Maskiner - Stand No. M-9812**
EM Elkær, type HK-Max, is a hedgerow clipper with support wheel, three point suspension hedge saw and branch crusher. The clipper consists of a cutting unit with 5 circular saw blades and a branch crusher that gathers and shreds the cut branches when the tractor is driven forward.

Roads and verges

- ★★ **Bogballe A/S - Stand No. D-3212**
Bogballe S2 is a single disc, lift suspension salt and sand spreader that is 100% drive dependent and provides documentation for the completed work.

It applies Calibrator Icon for dosage control so that it automatically adjusts dosage to the selected spreading width. Dosage can be controlled with the aid of GPS.

Epoke A/S - Stand No. C-2606

★★ EpoMaster IV is a wireless remote control for spreaders that are applied for work on slippery roads. The purpose of this new product is to avoid cable links between the control and the computer in a salt environment. This greatly simplifies installation and dismantling of the spreader and the risk of damaging cables is eliminated. This new control can be equipped with data collation via RS232, Memorycard, GSM or GPRS. It can also operate with EpoSat GPS controlled spreading and EpoTherm temperature controlled spreading. Control can be supplied with power from the vehicle or from a battery that provides power for up to 6 hours before recharging is required.

★★ Sirius Combi, type S-4402, for installation on a truck is a spreader for combatting slippery roads. The new feature is that optimum spreading is effected at high speeds. Via spreading discs, this spreader can distribute salt, sand, split and moisturized dry matter in widths of from 2 to 12 m at speeds of up to 60 km/hour. Water and solutions of salt and urea is spread via a nozzle boom which is only 1.2 m wide. This is carried out with the aid of patented SpraTronic nozzles which ensure precise dosage of the solution on the roads at widths of from 3 to 11 m and at speeds of up to 90 km/hour. The solutions can be asymmetrically or symmetrically spread. The spreader is equipped with EpoSat GPS control. This automatically changes the spreading width, dosage and changeover between, or combinations of the spreading materials on the basis of data regarding the actual road or weather situation. This ensures optimum combat of slippery roads at speeds compatible with the existing traffic and the driver only has to concentrate on driving the vehicle.

Maskinhandler Indkøbsringen A.m.b.A - Stand No. N-1118

★ Kuhn, type RSM 180, is a side-mounted mulcher with an operating width of 1.80 m. The rotor diameter is 425 mm. It can be drawn by a 65 hp tractor and can operate at angles from 65 degrees to the vertical. The cutting head has floating suspension so that it can easily follow terrain contours.

★ Kuhn, types TBES 230 and TBES 250, are mulchers with operating widths of, respectively, 2.3 and 2.5 m. These can be offset 1116 mm so that they are clear of the tractor.

Gardens, parks, golf courses and other green areas

(see also under Tractors page 4)

Dal-Bo A/S - Stand No. N-1116

- ★ Grass roller Greenline 300 is a smooth pasture roller which has a width of 3 m and is equipped with rake and smoothing plank. The roller is based on the larger Maxiroll Greenline models and can be equipped with sowing implements.

Fog A/S, Henrik A. - Stand No. C-2708

- ★★ Grasshopper, type GR930 Rd, is a mower with three rotating blades and a discharge rotor in the discharge channel. The grass is discharged at the rear. The design facilitates the mowing of wet grass with good results.
- ★ Lake Mower, type HD5000, is a battery powered 12V finger cutter for weed clearance in lakes and waterways. It consists of a finger cutter on a long shaft. There is an electric motor at the top which is connected to an ordinary accumulator battery.
- ★ MultiOne, type S23D, is an angle-steered miniloader/implement carrier in a new design. It is less than 2 m in height and weighs less than 900 kg.
- ★ Nibbi Hydro, type FC30, is a hydrostatic, two-wheeled universal tractor. In comparison with the majority of other tractors, this model has hydrostatic transmission instead of the usual mechanical clutch and gearbox.
- ★ Nimos, types DM-Trac 205-406-408, are new model implement carriers. Operator comfort has been greatly improved due to lower access and more space in the cabin.
- ★ Superpark, type SP4500, is an angle-steered implement carrier. It has hydrostatic drive and is equipped with normal three-point suspension and PTO with 540 revs./minute.

GGP Denmark A/S-Stiga - Stand No. B-2214

- ★ Stiga Titan 32 is an angle-steered implement carrier with permanent 4WD. It can be fitted with brushes, mowers, salt spreaders, etc. The mower has "Discharge on demand". This facilitates that the operator can change from ordinary rear discharge to multi-clip from the driving seat.
- ★ Stiga Turbo HD 60 MKH is a robustly built, self-propelled, hydrostatic lawn mower with an operating width of 50.5 cm. It has an aluminium shield and ergonomic "Gaby" steering. It has blade stop without stopping the motor.

Maskinhandler Indkøbsringen A.m.b.A - Stand No. N-1118

- ★ Kuhn, type EL 22, is a small rotary cultivator for tractors up to 25 hp. It is available with operating widths of 126 and 147 cm. This machine has a maintenance-free side gearbox.
- ★ Kuhn, type TL 180 is a mulcher for front or rear installation on smaller park tractors.

Contractor machinery

Helms TMT-Centret A/S - Stand No. C-2504

- ★ Cams Libra CZ 30 is a small digger on caterpillar tracks. Steel tracks can be replaced by rubber tracks without having to change the traction wheels. This machine is equipped with a new cabin and it is designed without a tail end so that it can turn within the support area of the tracks. It has a 25 hp motor. The digging power of the grab is 2650 kg.
- ★ Hidromek 102S/102B are new model ditch diggers. These now have cabins with low noise levels. There is joystick operation of the digger shaft.

Scantruck A/S - Stand No. C-2728

- ★ Case 1221 E rubber wheel loader is a large loader with 365 hp Cummins diesel engine. It has reversible, hydraulic cooling fins and automatic differential. The work functions are operated via joystick or linear handle. The E-models have „RideControl“. This ensures that the operator is not subjected to vibrations caused by driving in rough terrain with a full grab.
- ★ Manitou MRT 3050 „Privilage“ is a rotating telescopic loader which can be applied as a stationary crane. Positioned on its support legs, the loader can rotate on its own axis. It has an operating reach of 30 m and a lifting height of 29.7 m. The lift capacity is 5 tons and it can be equipped with a wide range of different implements.

Stemas Maskinsalg A/S - Stand No. C-2506

- ★ Yanmar ViO 57 is a minidigger on rubber tracks that has a weight of 5325 kg. This machine has proportional steering.

Feed, grain and seed - industrial plant

(see also under Cleaning, drying, and storage of grain/seed on the farm page 12)

Cimbria Unigrain A/S - Stand No. F-5214

- ★ Cimbria Angle conveyors, types RA-5, RA-8, RA-10 and RA-12 are modular construction chain conveyors which can be applied for sloping, vertical or horizontal transport of grain, etc. The chain conveyor is constructed with double bottom sections and the entire cross-section is applied for transport. These conveyors are available with capacities ranging from 80-250 m³ per hour.