

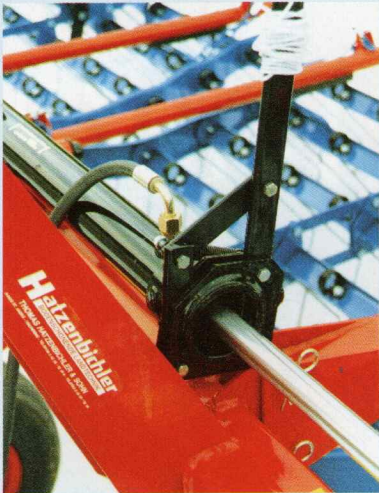
# HARROW TECHNOLOGY WITH THE HATZENBICHLER „ORIGINAL-HARROW“ EXPERIENCE



Where there is healthy soil, there is

**Hatzenbichler**  
GROUND PROTECTING AGROTECHNOLOGY

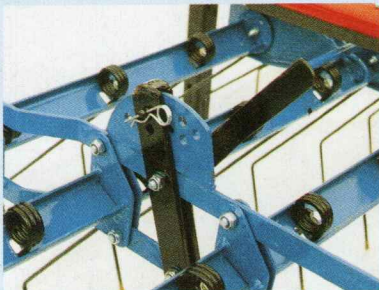
# OUR ADVANTAGES ARE LYING IN THE DETAIL



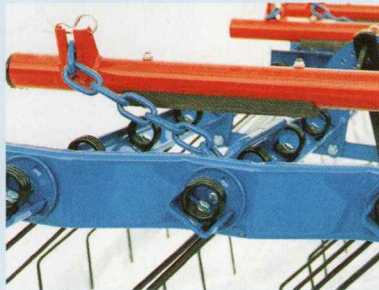
THE CYLINDER CAN BE LOCKED FOR ROAD TRANSPORT WITHOUT HAVING TO CLIMB DOWN FROM THE TRACTOR



HEIGHT-ADJUSTABLE SUPPORT WHEEL WITH SCREW-IN WHEEL HUB AND TAPERED ROLLER BEARINGS. SIMPLE-TO-OPERATE CYLINDER WITH AIR CHAMBER AND TRANSPORT LOCK.



10 HOLE ADJUSTMENT OF THE TINE AGGRESSIVENESS TO MEET ALL REQUIREMENTS FOR HARROWING



ALL REPLACEABLE PARTS IN DURABLE PLASTIC

## TECHNICAL DESCRIPTION:

### SPRING

EQUIPPED WITH 2 CYLINDER DOUBLE-ACTING HARROW WITH SPECIAL MOULDED TUBE FRAME AND EACH BLOCK OF SPRING TINES FIXED INDIVIDUALLY ONTO CHAINS.

THE INDIVIDUAL BLOCKS OF SPRING TINES ARE EQUIPPED WITH SIX ROWS OF ADJUSTABLE SPRING TINES.

THE SIX BARS OF THE HARROW BLOCK ARE SET AT THE REQUIRED INCLINATION BY MEANS OF AN ADJUSTING LEVER.

THE ANGLE OF ADJUSTMENT (I.E. THE AGGRESSIVENESS OR THE TINE PRESSURE) CAN BE SET CENTRALLY FOR EVERY SHAPE OF COMBING FIELD (10 POSSIBLE ADJUSTMENT SETTINGS), WHEREBY THE ANGLE OF ADJUSTMENT OF THE TINES IS VERY VARIABLE FROM TRAILING ( $>90^\circ$ ) TO THRUST ( $<90^\circ$ ).

A WIDE SURFACE COVERAGE OF THE TREATMENT IS ACHIEVED BY THE LATERAL VIBRATION OF THE SPRING TINES IN CONJUNCTION WITH THE DRIVING SPEED.

THE IMPLEMENT IS DRAWN BEHIND THE TRACTOR TRACK WITH TWO RUBBER SUPPORT WHEELS (WHEELS WITH SCREW-IN WHEEL HUBS AND TAPERED ROLLER BEARINGS).

OPTIONAL EQUIPMENT: INFINITELY HEIGHT-ADJUSTABLE SUPPORT WHEELS WITH SPINDLE REGULATION. THE TRANSPORT ADJUSTMENT IS CARRIED OUT EITHER MECHANICALLY OR HYDRAULICALLY

EQUIPPED WITH 2 CYLINDER DOUBLE-ACTING UNITS. A DOUBLE-ACTING CONTROL DEVICE IS ONLY NECESSARY FOR IMPLEMENTS WITH SCISSORS TILTING GATES.

LOW IMPLEMENT WEIGHT THANKS TO THE USE OF HIGH-GRADE STEEL. OIL-HARDENED SPRING TINES (SIMILAR TO VALVE SPRINGS IN AUTOMOBILE CONSTRUCTION), CONSIDERABLY LONGER SERVICE LIFE COMPARED WITH NORMAL SPRING TINES.

### APPLICATION:

CEREALS, RAPE, SOYA, CORN, SUNFLOWER, BEET, BEAN, PEA POTATO AND GRASSLAND CROPS.

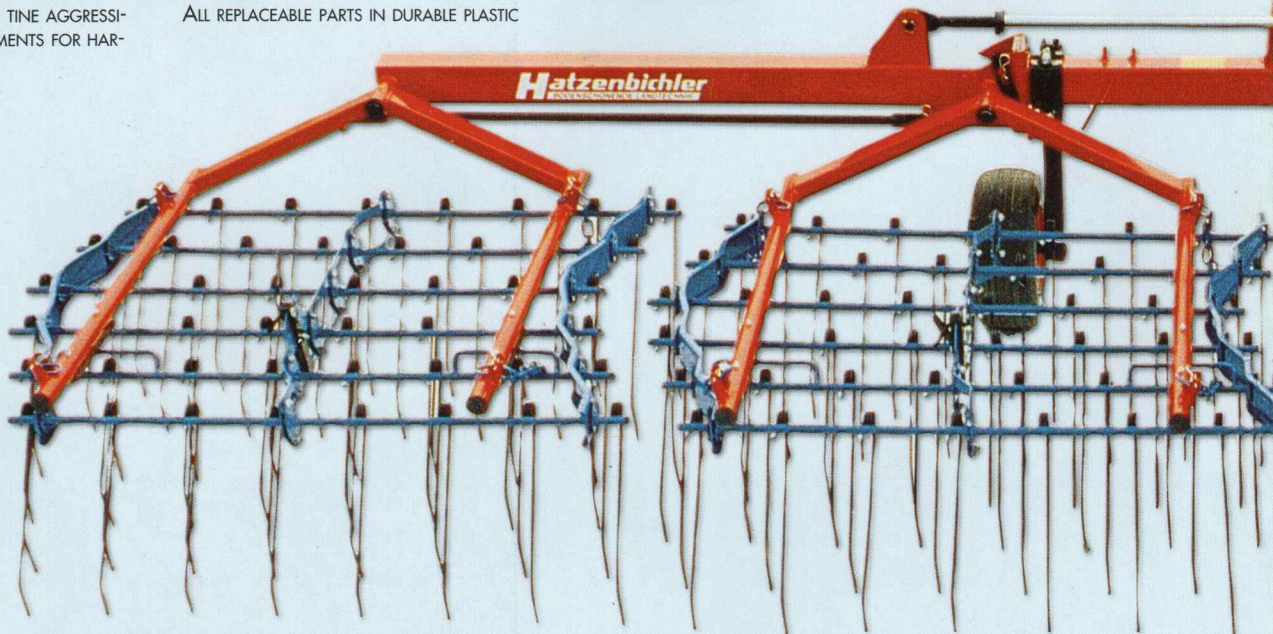
### EFFECT:

ACTIVATION OF THE NATURAL NITROGEN CONTENT.

IMPROVED SOLAR RADIATION OF THE SOIL DUE TO FINE TILLING.

SOIL AERATION.

SOIL DRESSING.



SPRING TINE HARROW, 6 M WIDTH, (WINTER CEREAL CROPS)



SPRING TINE HARROW, 6 M WIDTH, (SUMMER CEREAL CROPS)



SPRING TINE HARROW, 9 M WIDTH, (TRANSPORT POSITION)

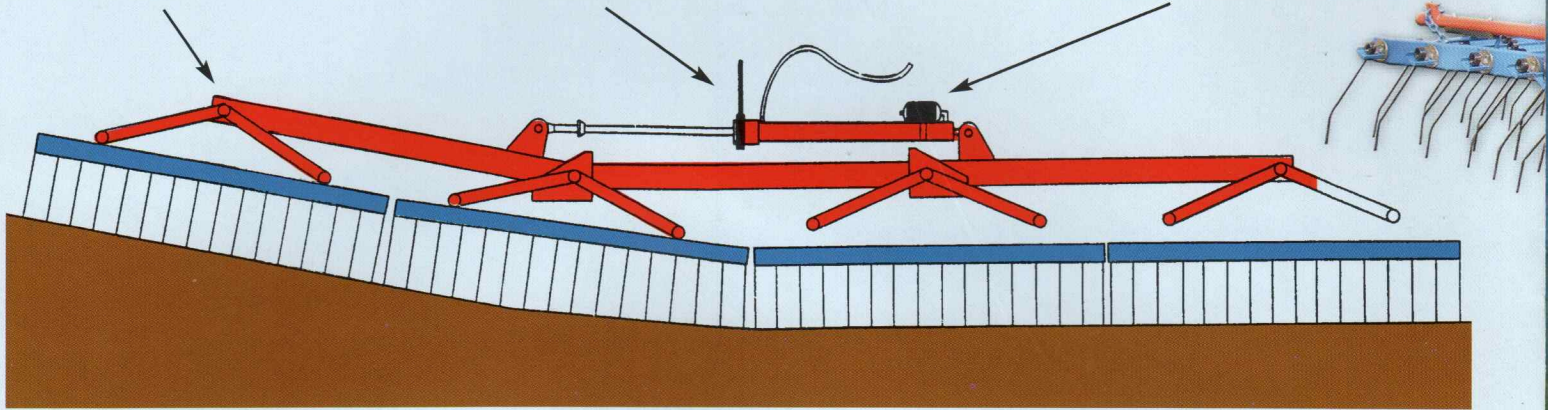
# BEST ADAPTION TO GROUND CONDITIONS OPTIMAL SOLVED

- AN INTRINSICALLY FLEXIBLE HARROW BLOCK (NO STABILIZER – MEANS NO BLOCK RIGIDITY)
- ACTIVE HARROW BLOCK SUSPENSION ON THE IMPLEMENT FRAME
- FRAME MORE ADAPTABLE TO GROUND CONDITIONS WITH ADDITIONAL PRESSURE FROM THE PRESSURE CHAMBER (NO RIGID OUTER BEAM LOCKING)

$F = \text{DEADWEIGHT} + 10 \text{ BAR}$

TRANSPORT LOCK

PRESSURE CHAMBER 8-10 BAR



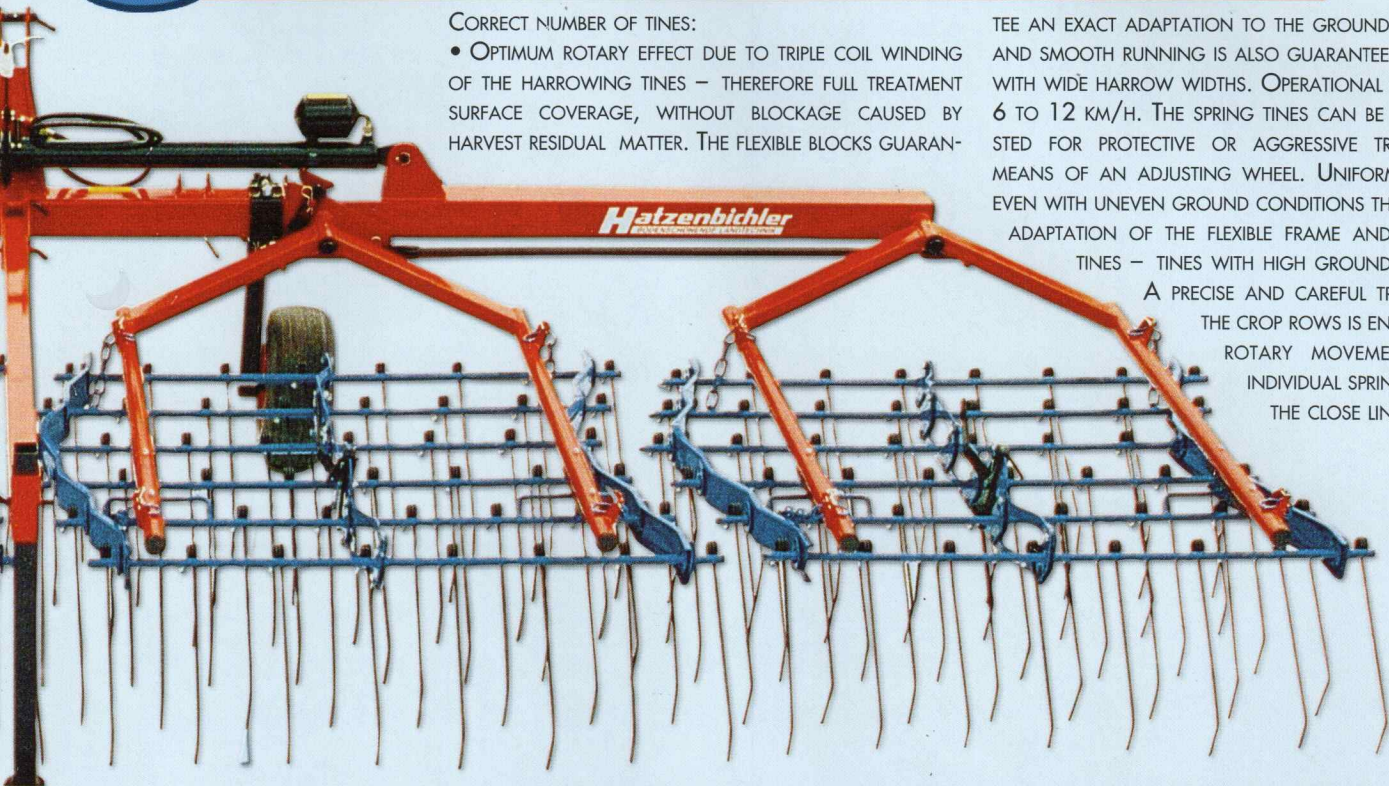
## SPECIAL ADVANTAGES OF THE HATZENBICHLER DESIGN:

CORRECT NUMBER OF TINES:

- OPTIMUM ROTARY EFFECT DUE TO TRIPLE COIL WINDING OF THE HARROWING TINES – THEREFORE FULL TREATMENT SURFACE COVERAGE, WITHOUT BLOCKAGE CAUSED BY HARVEST RESIDUAL MATTER. THE FLEXIBLE BLOCKS GUARAN-

TEE AN EXACT ADAPTION TO THE GROUND CONDITIONS AND SMOOTH RUNNING IS ALSO GUARANTEED, ESPECIALLY WITH WIDE HARROW WIDTHS. OPERATIONAL SPEEDS FROM 6 TO 12 KM/H. THE SPRING TINES CAN BE EASILY ADJUSTED FOR PROTECTIVE OR AGGRESSIVE TREATMENT BY MEANS OF AN ADJUSTING WHEEL. UNIFORM TREATMENT EVEN WITH UNEVEN GROUND CONDITIONS THANKS TO THE ADAPTION OF THE FLEXIBLE FRAME AND THE SPRING TINES – TINES WITH HIGH GROUND CLEARANCE.

A PRECISE AND CAREFUL TREATMENT OF THE CROP ROWS IS ENSURED BY THE ROTARY MOVEMENT OF THE INDIVIDUAL SPRING TINES AND THE CLOSE LINE SPACING.



SPRING TINE HARROW, 6 M WIDTH, TRANSPORT SETTING, 2,80 M TRANSPORT WIDTH



SPRING TINE HARROW, 5 M WIDTH, (POTATO FIELD)



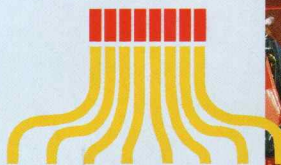
(OVERSOWING) DEFLECTORS MOUNTED ON HARROW SECTION



SPRING TINE HARROW 6M WITH PNEUMATIC SEEDER AIR 8, RNOVATING PASTURES



SPRING TINE HARROW 12M WITH PNEUMATIC SEEDER AIR 16 SOWING NEW PASTURES



PNEUMATIC SEEDER AIR 8, WITH TRANSMISSION INFINITELY VAIABLE, SEED METERING ROLLER AND 2 ELECTRICALLY DRIVEN FANS. FOR FITTING ON EXISTING HARROWS - SOWING AND OVERSOWING



# NOTE!

COVERED COIL SPRING WINDING PREVENTS HEADS OF CULTIVATED PLANTS BEING NIPPED OFF

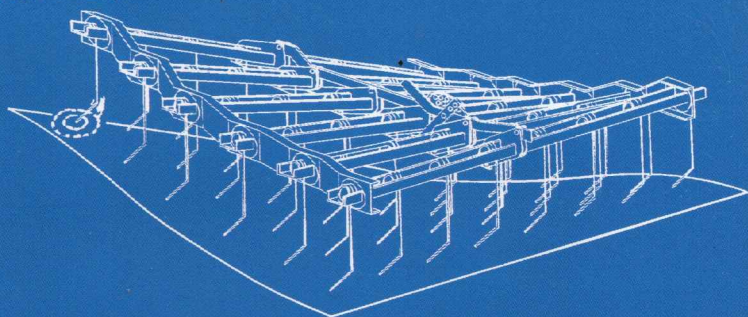
## TINE QUALITY:

- OIL HARDENED SPRING WIRE
- ALL PRODUCTION AT OUR OWN WORKS
- NO BREAKDOWNS
- 3 TIMES THE SERVICE LIFE OF NORMAL SPRING STEEL WIRE



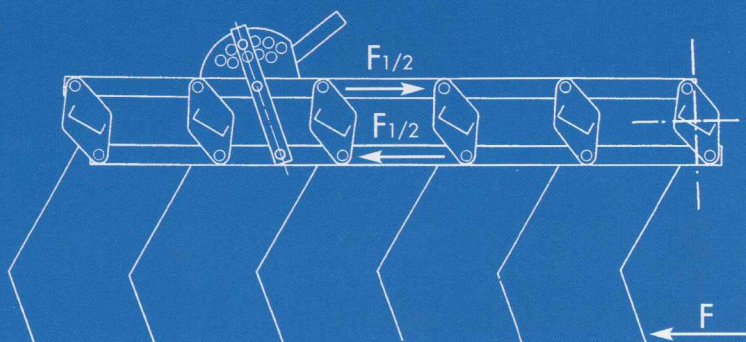
## THE FLEXIBLE HARROWING BLOCK:

(2-Disc Support) GUARANTEES AN OPTIMUM ADAPTATION TO GROUND CONDITIONS (BLOCK IS NOT STIFFENED BY A STABILIZER). FULL-AREA TREATMENT DUE TO THE ROTATIONAL EFFECT OF THE TRIPLE COIL SPRING WINDING. THE COVERED COIL WINDING PREVENTS THE HEADS OF THE PLANTS BEING NIPPED OFF.



## STABLE CONSTRUCTION OF THE HATZENBICHLER HARROWING BLOCK:

THE DRAW POINTS OF THE HARROW ADJUSTMENT ARE DIVIDED BETWEEN THE UPPER AND LOWER PARTS OF THE TINE PROFILE ON  $F_1$  AND  $F_2$ . THIS RESULTS IN VERY GOOD UTILITY OF THE BLOCK AND EXTREMELY SMOOTH RUNNING EVEN AT HIGH SPEEDS.



12 M HARROW COMBINED WITH LIQUID MANURE HOSE OUTLET



**FOR GRASSLAND AND PASTURES:**

HARROW COMBINED WITH RAKE FOR LEVELLING MOLEHILLS, COW-PATS, TURNING-IN MANURE AND LIQUID MANURE AND SOD AERATION.



SPRING TINE HARROW, 4,5 M WIDTH, IN WORKING POSITION, BEING TOWED

WITH THE 12 M AND 15 M HARROW, THANKS TO THE AUTOMATIC FOLDING UP OF THE OUTER SUPPORT WHEELS AND THE SHORT STRUCTURAL DESIGN OF THE IMPLEMENT, THE MAIN WEIGHT (FRAME) IS JUST BEHIND THE TRACTOR, RESULTING IN EASY LIFTING AND LOW POWER REQUIREMENT.



SPRUNG LEVELLER BAR 1,5 M TO LEVEL COWDUNG AND MOLE-HILLS.

SPRING TINE HARROW, 12 M WIDTH, IN WORKING POSITION, TRANSPORT WIDTH LESS THAN 3M



SPRING TINE HARROW, 15 M WIDTH, IN TRANSPORT POSITION



SPRING TINE HARROW, 15 M WIDTH, IN WORKING POSITION

**RANGE OF APPLICATIONS:**

- IMMEDIATELY BEFORE SOWING, TO CONTROL SPROUTING WEEDS AND BREAK UP CRUST.
- IN CEREAL CULTIVATION FOR TURNING, WEED CONTROL AND SOIL AERATION, THANKS TO THE WORKING WIDTH OF 12 M, STRIP SOWING CAN BE CARRIED OUT ESPECIALLY WITH CEREAL AND RAPE CULTIVATION.
- WITH CORN AND BEET CULTIVATION THE IMPLEMENT CAN ALSO BE USED BEFORE SEED PLANTING FOR CONTROL OF THE ALREADY-SPROUTING WEEDS (BLIND HARROWING). THE MOISTURE LEVEL OF THE SOIL WILL ALSO BE MAINTAINED WITH THIS PROCESS THROUGH INTERRUPTION OF THE CAPILLARY ACTION TO THE SURFACE.
- CAN BE USED IN CEREAL CULTIVATION UP UNTIL THE SEEDING OF THE CULTIVATED PLANTS FOR COMBING-OUT BURRED WEEDS, IN CORN AND OTHER HOED CULTURES OVER THE COMPLETE SURFACE UP UNTIL THE SPROUTING OF THE CULTURES.
- WITH WELL-DIRECTED USE OF THIS IMPLEMENT
- LARGE SAVINGS IN HERBICIDES CAN BE ACHIEVED, OPTIMUM SOIL CONDITION IS MAINTAINED. ENVIRONMENTALLY FRIENDLY!

**BLIND HARROWING:**

THE SPRING TINE HARROW IS EXCELLENTLY SUITED FOR FULL-AREA TREATMENT. THE HARROW ADAPTS ITSELF SUPERBLY TO THE GROUND CONDITIONS THANKS TO ITS FLEXIBLE, INTERNALLY TWISTING TINE BLOCKS. IMPLEMENTS WITH RIGID, INFLEXIBLE WORKING PARTS DO NOT PERFORM AS WELL DUE TO POORER ADAPTION TO THE GROUND CONDITIONS. THIS DIFFERENCE PAYS OFF ESPECIALLY WITH BLIND HARROWING. BLIND HARROWING IS CONSIDERED AS A PRESPROUTING PROCESS, AND IS CARRIED OUT BEFORE THE APPEARANCE OF THE TIPS OF THE FIRST CULTURE PLANTS APPEAR. THEREFORE WITH DULL, WARM WEATHER ANY WEEDS WHICH HAVE SPROUTED SINCE THE TIME OF SOWING

WORKING WIDTH		WEIGHT	TRANSPORT HEIGH		TRANSPORT WIDTH		HP REQ.	HARROW SECTION		NUMBER OF TINES
ft	m		ft	mt	ft	m		ft	m	
5,00	1,50	145	4,85	1,45	6,70	2,00	10,00	1x5,00	1x1,50	48,00
6,70	2,00	165	4,85	1,45	6,70	2,00	13,00	1x6,70	1x2,00	60,00
10,00	3,00	260	4,85	1,45	10,00	3,00	15,00	2x5,00	2x1,50	96,00
15,00	4,50	390	4,85	1,45	9,30	2,80	20,00	3x5,00	3x1,50	144,00
16,70	5,00	440	5,70	1,70	9,30	2,80	25,00	2x5,0/1x6,70	2x1,50/1x2,0	156,00
20,00	6,00	530	7,30	2,20	9,30	2,80	40,00	4x5,00	4x1,50	192,00
21,30	6,40	550	8,70	2,60	9,30	2,80	40,00	2x5,0/2x5,65	2x1,5/2x1,70	204,00
25,00	7,50	710	10,50	3,15	9,30	2,80	50,00	5x5,00	5x1,50	240,00
26,70	8,00	740	10,80	3,25	9,30	2,80	55,00	4x5,0/1x6,70	4x1,5/1x2,0	252,00
30,00	9,00	780	12,30	3,70	9,30	2,80	60,00	6x5,00	6x1,50	288,00
30,00	9,00	1010	9,20	2,75	9,30	2,80	60,00	6x1,50	6x1,50	288,00
35,00	10,50	1050	11,70	3,50	9,30	2,80	65,00	7x5,00	7x1,50	336,00
40,00	12,00	1170	11,30	3,40	9,30	2,80	70,00	8x8,50	8x1,50	384,00
41,30	12,40	1270	12,00	3,60	9,30	2,80	75,00	6x5,0/2x5,65	6x1,50/2x1,7	396,00

CHANGES IN CONSTRUCTION RESERVED



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AGROTECHNOLOGY

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