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FINAL REPORT

FOR THE IMPLEMENTATION OF THE NATIONAL PHASE-OUT OF METHYL BROMIDE-CHINA Phase II-III

REPORTING PERIOD: December 2007 - March 2008

Project No.: MP/CPR/07/006

UNIDO's Contract No.: 16001470

Beijing, China

31st March 2008

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Acronyms:

ExCom: Executive Committee

FECO: Foreign Economic Cooperation Office

MB: Methyl Bromide

MEP: Ministry of Environmental Protection

MLF: Multilateral Funds

ODP: Ozone Depleting Potential

SAG: State Administration of Grain

STMA: State Tobacco Monopoly Administration

TA: Technical Assistance

UNEP: United Nations Environment Programme

UNIDO: United Nations Industrial Development Organization

1. Abstract

Phase II: At the 44th Meeting, an additional 10,702,742 US$ were approved, which includes 4 million USD from the Italian contribution, to achieve the complete phase-out of methyl bromide, corresponding to additional 698.8 ODP tones.

The final report for the implementation of the national phase-out of methyl bromide-China phase II-III summarizes the activities implemented until 31st march 2008.

2. Methyl bromide phase-out target achieved

In 2007, according to the agreement signed between China and ExCom, of the MLF, 153.2 ODP tones MB have been phased out, to meet the maximum eligible consumption of 570.6 tones. It is estimated that the total consumption of methyl bromide in China, in 2007, is 389.54 ODP tonnes, which is 181.06 tones lower than the eligible consumption limit agree with the ExCom, of the MLF. As established by the MLF, the final methyl bromide consumption figure for the year 2007 will be reported to the Ozone Secretariat in September 2008.

Methyl bromide consumption in 2003-2007

Year		2003	2004	2005	2006	2007
Max. allowable consumption approved by Excom (ODP tones)	Commodity	126	126	46	25.2	0
	Tobacco	427.8	427.8	300	164.6	124.6
	Agriculture	534	534	534	534	446
	Total	1087.8	1087.8	880	723.8	570.6
Actual consumption (ODP tones)	Commodity	126	52.2	32.1	6.96	0
	Tobacco	427.8	227.8	54	21	32.4*
	Agriculture	534	534	534	282.08	357.14*
	Total	1087.8	814	620.1	310.04	389.54*
Phase-out achieved (ODP tones)	Commodity	0	73.8	20.1	25.14	6.96*
	Tobacco	0	200	173.8	33	-11.4*
	Agriculture	0	0	0	251.92	-75.06*
	Total	0	273.8	193.9	310.06	-79.5*

Note:

1) "*" estimated figure.

2) Though the control target has been met, the consumption of methyl bromide increased in 2007 compared to 2006 because:

   - In 2006, 300 tonnes of methyl bromide were exported due to the political reasons and, since the methyl bromide production is also controlled under the "Sector plan for methyl bromide production sector in China", the system was unable to compensate timely with extra production, therefore the national market was affected by a shortage of methyl bromide.
   - To increase the farmland area and the crops output, China has adopted several policies to protect the existing farmland and encourage farmers to expand their farmland area, which consequently slightly increased the demand of the methyl bromide in 2007.

3. Achievement in tobacco seedling sector

Since 2004, FECO/MEP and STMA had established a joint working group for phasing out methyl bromide in the tobacco sector. The programme has been developed in 2 stages. A total of US$4.165 million was also allocated in stage II, of which, US$ 3.665 million has been used for construction of greenhouses and procure equipment for floating tray tobacco seedlings, and of which, US$ 0.5 million partially has been and partially will be used for technical assistance activities.

3.1 Alternative technology

Tobacco floating tray technology has been selected to substitute methyl bromide in the tobacco seedling sector.

3.2 Investment

a) In Stage II, 17 additional technology transfer centres will be built, the technical specifications have been approved by FECO/MEP and UNIDO. In September 2007, the contracts for construction of these 17 demonstration centres were signed. So far, the construction and installation of six centres have been completed in Chenzhou, Hunan Province, Qujing,Yunnan Province, Liangshan, Sichuan Province, Sanming,Fujing Province, Nanping, Fujian Province and Chifeng, Inner Mongolia. No. 2 centres in Nanping and Chifeng have been verified by MEP/UNIDO (See detailed information and photos about Nanping and Chifeng regions at Annex II and III). For the other 11 demonstration centres, the installation will be completed before the end of August 2008. (See contract information and the installation progress of the stage II, at table No.1, Annex I)

b) STMA has invested more than US$ 55 million as co-funding for greenhouses, polystyrene trays and other auxiliary equipment for producing tobacco seedling using the floating tray system and so replacing methyl bromide. About 2.39 mil m^2 of different types of greenhouses have been completed and about 400 ODP tons of methyl bromide had been phased out.

3.3 Technical Assistance activities

3.3.1 Meeting

a) Six coordination meetings have been organized to finalize the phase-out plan, the construction procedure and identify the technology transfer centre sites.

b) Wrap up meeting for Phase I was held in 2006 to summarize experiences and planning for the next stage.

c) Training workshops: two training workshops for local tobacco bureaus and companies were held. One for the formulation of the Technical Specification and the other is for bidding procedures. 302 participants from local tobacco bureaus and companies have been trained (See UNIDO/STMA presentation delivered in the workshop at Annex IV).

3.3.2 Study tour and training

a) 1st -16th November, 2004, 8 trainees from tobacco companies, research institutes, STMA, FECO/MEP visited Brazil, where floating tray system is largely used and well developed.

b) 14th – 22nd November, 2006, 13 trainees from tobacco companies, research institutes, STMA, FECO/MEP visited Cuba where floating tray system is largely used and well developed as well as policy and management system.

c) Study tours to USA, Israel and the Netherlands are under preparation.

Study tour to Brazil

Study tour to Cuba

3. 3.3 Awareness

In March 2007, to promote new technologies to phase-out methyl bromide in the tobacco seedling sector, STMA signed a contract for developing a tobacco sector websites. STMA also proposes to carry out a series of awareness activities in the future. The terms of references are under preparation (See summary of technical assistance programme of tobacco sector at table No.2, Annex I).

3.4 Performance Assessment

The cost comparison between floating tray system and methyl bromide shows that the floating tray system technically and economically satisfies the requirement of

tobacco seedlings production (See details at table No.3 and No.4, Annex I).

The tobacco sector took advantage of the technology transfer centres, which played important role to promote the alternative technologies to other tobacco production areas.

3.5 Project financial balance

No.	Activity	Contract Amount (USD)	Disbursement (USD)	Status
1	Greenhouse construction of Stage II	3,665,000	0	Ongoing
2	Meeting	48,785	48,785	Completed
3	Study tour	48,006	48,006	Completed
4	Expert fee	6,643	6,643	Completed
5	Website for awareness	29,500	8,850	Ongoing
	Total	*3,797,934	112,284	

"*" Notes:

1) US$ 3,665,000 has been used for greenhouse and procurement of equipment as listed in item 1;

2) US$ 112, 284 has been allocated for the technical assistance activities as listed in item 2-5. In addition, another US$ 387,716 will also be allocated for technical assistance.

3.6 Conclusion

3.6.1 Experience

a) The floating tray system technology is effective.

b) The Chinese government, especially STMA, attached great attention to this project and invested consistent additional fund.

c) An effective working mechanism was established, including the joint working group, the regular meetings between MEP and STMA and the close collaboration with local tobacco bureaus/companies.

3.6.2 Problems encountered

a) In some of the project sites, the utilization of the greenhouses needs further optimization.

b) Space management need to be improved.

c) The cost of the greenhouse is relatively high. Common farmers with poor revenue can not afford to build that kind of greenhouses as technology transfer centres.

3.6.3 Suggestions and proposals

a) To improve the methodology for a more effective utilization and space management of the greenhouse.

b) To develop more cost-effective structure and mythologies for floating tray system.

4. Policies

For the management of methyl bromide production, consumption and trade in China, the following policies have been issued:

a) Circular on the establishment, expansion or innovation of 1,1,1-Tricholorethane and Methyl Bromide production equipment (Huanfa No. 60 [2003]), July 1st, 2003.

b) Public Notice on Implementing Methyl Bromide Production Licensing and Quota Management (Huanfa No. 155 [2004]), 21st May 2007.

c) Control for the methyl bromide import and export (including QPS): the Licensing Management for import and export of Methyl Bromide (including QPS) became effective since 1st January 2004.

d) Catalogue of Controlled ODS in China's Import & Export (Third batch) (Huanfa No. 25 [2004]), 6th February 2004.

e) Ban of Methyl Bromide in the commodities sector by SGA and MEP (No. 4 [2006]), 26th September 2006.

(The end)

Annex I

Table No. 1: Progress of greenhouse construction Stage II for tobacco sector

No.	Beneficiary	Contract No.	Grant Amount ($)	Area (m^2)	Date of bidding	Construction started on	Completion date
1	Baicheng, Jilin	F/III/S/07/380	180,000	12,850	Sep.2007	Oct.2007	to be completed in Apr-08
2	Baoji, Shanxi	F/III/S/07/384	180,000	12,850	Sep.2007	Jan.2008	to be completed in Jun-08
3	Bijie, Guizhou	F/III/S/07/374	230,000	16,400	Oct.2007	Nov.2008	to be completed in Apr-08
4	Chenzhou, Hunan	F/III/S/07/378	230,000	16,400	Sep.2007	Oct.2007	Completed in Jan-08
5	Chifeng, Inner Mongolia	F/III/S/07/381	240,000	17,100	Sep.2006	Oct.2006	Completed in Dec-06
6	Liangshan, Sichuan	F/III/S/07/388	230,000	16,400	Nov.2007	Dec.2007	Completed in Jan-08
7	Luoyang, Henan	F/III/S/07/376	220,000	15,650	Sep.2007	Nov.2007	to be completed in Jun-08
8	Luzhou, Sichuan	F/III/S/07/385	200,000	14,300	Dec.2007	Jan.2008	to be completed in Mar-08
9	Nanping, Fujian	F/III/S/07/372	260,000	18,600	Oct.2006	Oct.2006	Completed in Dec-06
10	Qujin, Yunnan	F/III/S/07/386	230,000	16,400	Oct.2007	Dec.2007	Completed in Jan-08
11	Rizhao, Shandong	F/III/S/07/382	125,000	9,000	Sep.2007	Nov.2007	to be completed in Apr-08
12	Sanming, Fujian	F/III/S/07/373	230,000	16,400	Sep.2007	Nov.2007	Completed in Dec-07

No.	Beneficiary	Contract No.	Grant Amount ($)	Area (m^2)	Date of bidding	Construction started on	Completion date
13	Shiyan, Hubei	F/III/S/07/377	190,000	13,650	Sep.2007	Nov.2007	to be completed in Apr-08
14	Tongren, Guizhou	F/III/S/07/375	230,000	16,400	Sep.2007	Dec.2007	to be completed in Apr-08
15	Weifang, Shandong	F/III/S/07/383	230,000	16,400	Sep.2007	Nov.2007	to be completed in Apr-08
16	Yichang, Hubei	F/III/S/07/387	180,000	12,850	Sep.2007	Nov.2007	to be completed in May-08
17	Yongzhou, Hunan	F/III/S/07/379	280,000	19,900	Sep.2007	Oct.2007	to be completed in Aug-08
	Total		366,5000	261,550			

Table No.2: Summary of technical assistance projects of tobacco sector

No.	Project	Duration	Expenditure (US$)	Remark	Status
1	MB study tour to Brazil	2004.11.1-16	12,343.00	Training floating tray technology	Completed
2	First coordination meeting	2005.6.10-11	4,959.00	Planning the MB phasing out plan of tobacco sector, Phase I	Completed
3	Second coordination meeting	2005.8.4-5	11,123.00	Define the procedure for establishment of demonstration centres, Phase I	Completed
4	Third coordination meeting	2005.10.13-14	8,009.00	Define the procedure for greenhouse construction	Completed
5	MB phase-out (Stage I) wrap-up meeting	2006.4.20-21	3,635.00	Assessment of experience and planning for the next stage	Completed
6	*Expert team*	2005.11-2006.7	6,643.00	*Supervise the construction of greenhouse*	Completed
7	MB study tour to Cuba	2006.11.14-22	15,000.00	Training on policies and floating tray technology	Completed
8	Fourth coordination meeting	2006.8.18	8,625.00	Planning the MB phasing out plan of tobacco sector, Phase II	Completed
9	Fifth coordination meeting	2006.9.16	2,188.00	Define the procedure for procedure for establishment of demonstration centres, Phase II	Completed
10	Sixth coordinating meeting	2007.6.21-22	9,467.00	Confine beneficiary areas	Completed
11	Training for Local tobacco companies for equipment procurement	2007.8.9-10	10,867.00	Training and compilation of TOR for equipment procurement	Completed
12	Training for Local tobacco companies for procurement	2007.9.3-5	10,575.00	Training for procurement rule and regulation	Completed
13	Awareness	2007.3.	29,500	Website for tobacco sector	Ongoing
Total			132,934		

Table No. 3: Cost assessment of the alternative technology of tobacco sector

Beneficiary	Supplier	Type	Construction site	Span* length (m)	Span	No.	Area (m^2)	Unit cost (RMB/ m^2)	Sub-total (RMB)	Total Amount (RMB)
Enshi area, Hubei Province	Jiangxi Jinxian Lvjia greenhouse project Ltd.	A	Cuiba base of Research Institute for Science	9.6*32	1	2	614.40	846.02	519,796.42	2,613,360.58
		B	Enshi City Xintang Town Qianping Village	8*64	3	3	4,608.00	161.50	744,192.00	
		B	Lichuan City Wendou Town Anshan Village	8*64	3	3	4,608.00	161.50	744,192.00	
		B	Hefeng County Zhongying Town Yanwu Village	8*48	3	3	3,456.00	175.11	605,180.16	
Linyi area, Shandong province	Beijing Jingpeng global greenhouse project Ltd.	A	Fei County Xiaoshan Village	12*44	2	1	1,056.00	554.73	585,800.00	2,585,014
		B	Fei County Xiaoshan Village	8*104	8	1	6,656.00	167.23	1,113,075.00	

Beneficiary	Supplier	Type	Construction site	Span* length (m)	Span	No.	Area (m^2)	Unit cost (RMB/ m^2)	Sub-total (RMB)	Total Amount (RMB)
		B	Daotuo Tobacco Station of Yishui County	8*124	3	1	2,976.00	182.38	542,768.00	
		B	Daotuo Tobacco Station of Yishui County	8*32	6	1	1,536.00	223.55	343,371.00	
Nanyang area, Henan province	Beijing Jingpeng global greenhouse project Ltd.	A	Golden leaf Garden of Nanyang	9.6*32	2	1	614.40	823.87	506,186.17	3,419,933.43
		B (single film)	Fangcheng County Guangyang Town	8*40	8	2	5,120.00	222.89	1,141,196.80	
		B (single film)	Sheqi County Miaodian Village	8*40	8	1	2,560.00	222.89	570,598.40	
	Jiangxi Jinxian Lvjia greenhouse project Ltd.	B (double film)	Neixiang County YuguanVillage	8*40	8	2	5,120.00	234.76	1,201,952.06	
Zunyi area, Gui Zhou Province	Jiangsu Agriculture mechanism	A	Zunyi County Dieguan Town Lianxin Village	9.6*32	2	1	629.00	530.21	333,502.30	2,188,671.9

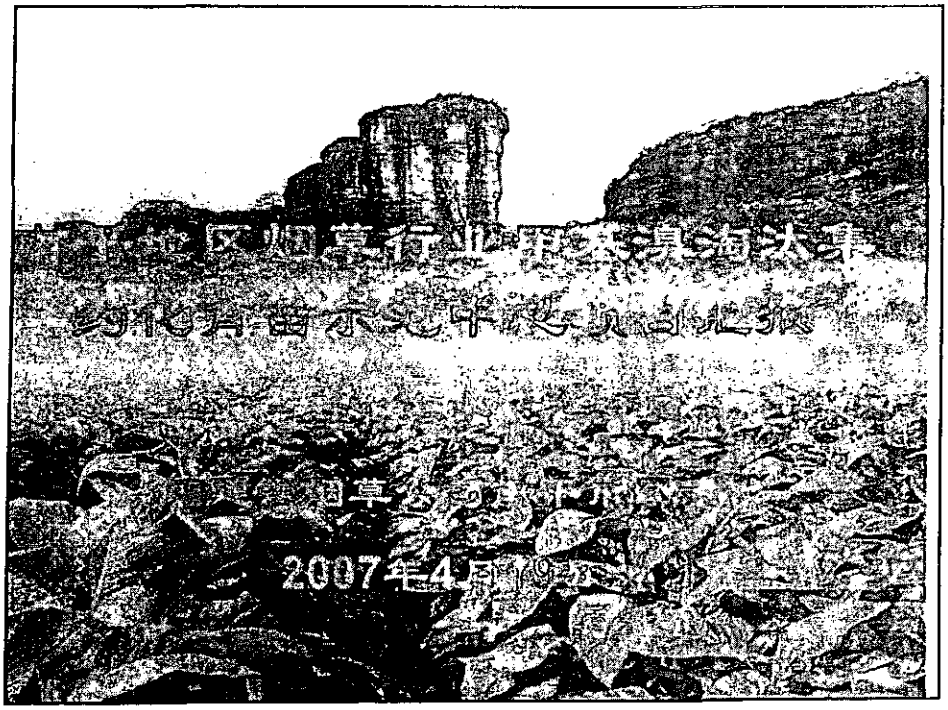
Beneficiary	Supplier	Type	Construction site	Span* length (m)	Span	No.	Area (m^2)	Unit cost (RMB/ m^2)	Sub-total (RMB)	Total Amount (RMB)
	Research institute	B	Meitan County Xima Town Xinchang Village	8*32	3	5	3,840.00	120.78	463,792.40	
		B	Zunyi County Dieguan Town Lianxin Village	8*32	3	5	3,840.00	120.78	463,792.40	
		B	Suiyang County Wangcao Town Xiasi Village	8*33	3	5	3,840.00	120.78	463,792.40	
		B	Tongzi County Jiuba Town Shanbao Village	8*34	3	5	3,840.00	120.78	463,792.40	
Longyan,Fujian	Jiangsu Agriculture mechanism Research institute	A	Longyan Research Institute for Science	9.6*32	1	1	322.00	626.40	201,701.20	1,685,836.88
		B	Changting County Hetian Town Songlin Village	8*32	3	8	6,144.00	120.78	742,067.84	
		B	Shanghang County Lufeng Town	8*33	3	8	6,144.00	120.78	742,067.84	

Beneficiary	Supplier	Type	Construction site	Span* length (m)	Span	No.	Area (m^2)	Unit cost (RMB/ m^2)	Sub-total (RMB)	Total Amount (RMB)
			Fengkang Village							
Dali, Yunnan	Jiangsu Agriculture mechanism Research institute	Upgrading	Xiangyun County of Dali				31,302.00	69.30	2,169,313.66	2,169,313.66

Table No.4: Technical Assessment of the alternative technology of tobacco sector

Area	Seedlings Quality	Healthy seedling produced / m^2	Seedling lost after transplanting	Variation of Seedlings harvesting schedule (early/late)	Disease incidence on seedlings	Market acceptance	Alternative technologies
Chifeng	Good	3,000-3,500	2-3%	Little earlier	Reduced	Acceptable	Suspended boxes, overhead irrigation
Dali	Good	810	1%	No	No	Acceptable	Floating tray
Enshi	Good	450	5%	No	Reduced	Acceptable	Floating tray
Linyi	Average	500	5%	10 days earlier	Reduced	Acceptable	Floating tray
Longyan	Good	235	None	No	Reduced	Acceptable	Suspended tray, overhead irrigation
Nanping	Good	400	1%	No	No	Acceptable	Floating tray
Nanyang	Good	700	None	No	Decreased by 20%	Acceptable	Floating tray
Zunyi	Better	800	2%	Later	Reduced	Acceptable	Floating tray

Annex II



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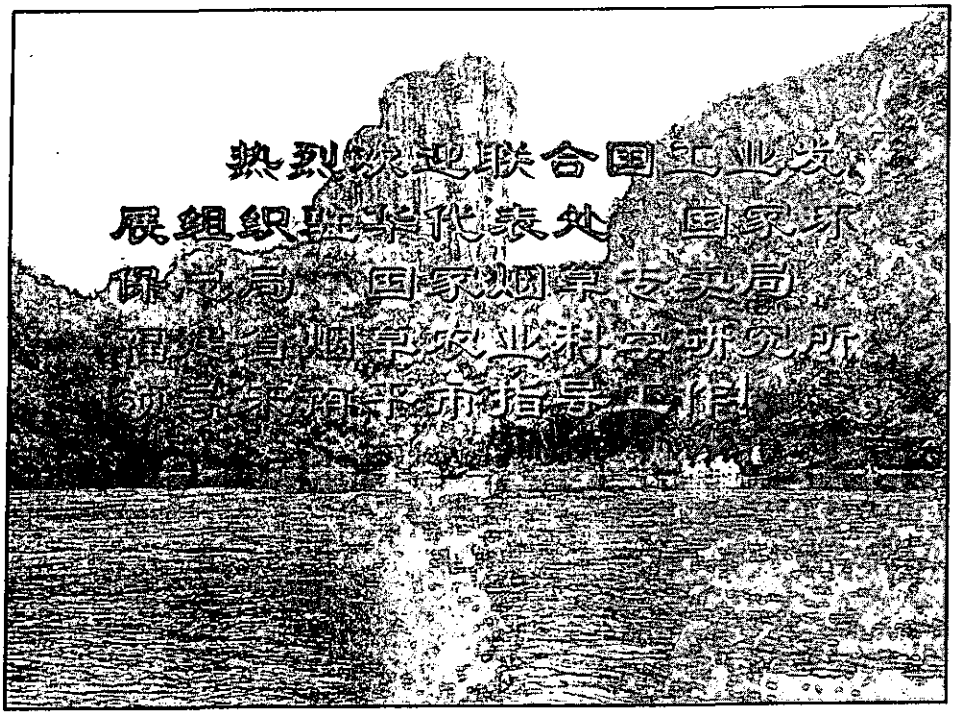

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1

南平烟区甲基溴熏蒸育苗示范中心项目

主要内容

一、南平烟区简介

二、项目基本情况介绍

三、项目招投标情况

四、项目示范中心建设情况

五、项目验收

南平烟区甲基溴熏蒸育苗示范中心项目

南平烟区简介

地理位置

南平市地处福建省北部，武夷山脉东南坡、闽江上游；位于东经117°12′-119°17′、北纬26°15′-28°19′。

南平烟区甲基溴熏蒸育苗示范中心项目

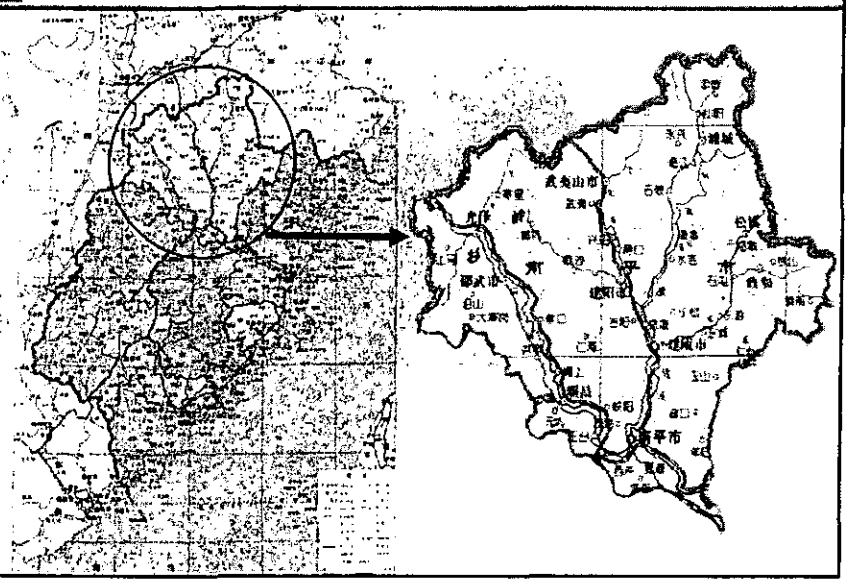
南平烟区简介

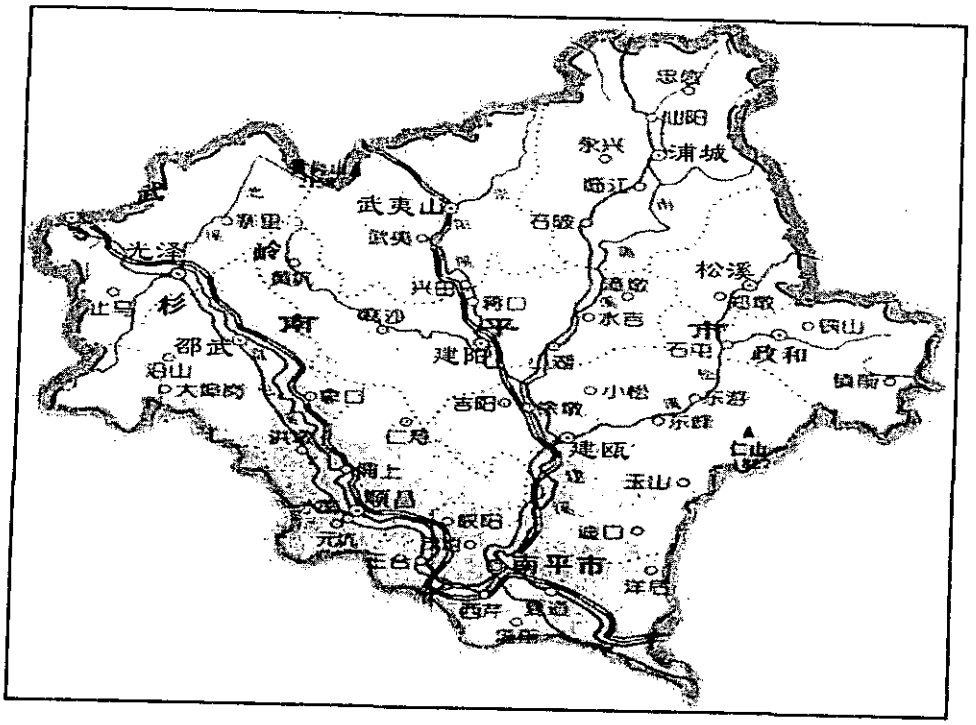
南平市概况

南平市下辖5县4市1区，128个乡镇，土地面积26301平方公里；地处中亚热带，自然条件优越，素有“绿色金库”和“粮仓”之称，是适宜发展优质烤烟的地区。

南平烟区甲基溴熏蒸育苗示范中心项目

南平烟区简介





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南平烟区甲基溴油法育苗示范中心项目

南平烟区简介

生产规模

南平市2006年烟叶种植面积22.2万亩，收购烟叶63.3万担。2007计划种植22.7万亩，收购烟叶66.07万担。

南平烟区甲基溴淘汰育苗示范中心项目

主要内容

一、南平烟区简介

二、项目基本情况介绍

三、项目招投标情况

四、项目示范中心建设情况

五、项目验收

南平烟区甲基溴淘汰育苗示范中心项目

项目来源

烟草行业甲基溴淘汰赠款由执行《关于消耗臭氧层物质的蒙特利尔议定书》多边基金提供，国际执行机构是联合国工业发展组织，国家环保总局外经办负责具体资金理。

南平烟区甲基溴淘汰育苗示范中心项目

项目总体目标

总体建设目标是在2006年底建成南平烟区集约化育苗示范中心，2007年底完全淘汰甲基溴在南平地区烟草上的使用，保证烤烟育苗的安全化生产。

南平烟区甲基溴淘汰育苗示范中心项目

项目管理

1、我市烤烟播种时间为12月10日至25日，因此项目工程必须准时完成，保证育苗不受影响；

2、季清武副经理召开项目启动会议，要求加强管理，细化职责，并成立了项目领导小组、项目办公室、项目物质采购招投标小组和育苗示范中心工作小组；

3、南平市公司下发文件《关于认真做好"甲基溴淘汰集约化育苗示范中心（二期）"建设工作的通知》（南烟司叶[2006]171号）对项目进行管理。

南平烟区甲基溴油法育苗示范中心项目

项目管理

项目领导小组

组　长：李清武

副组长：徐　茜　杨全忠　占朝琳

成　员：刘雪刚　吕潭斌　王新旺

陈乾锦　唐义忠

项目办公室

主任：徐　茜

成员：刘雪刚　吕潭斌　王新旺

育苗示范中心工作小组

组长：杨全忠　占朝琳

成员：陈乾锦　杨隆飞　李小龙　徐辰生

南平烟区甲基溴油法育苗示范中心项目

项目建设

序号	时间进度	工作内容
1	2006年8月25日	建设方案申报
2	2006年9月18日	建设方案批准实施
3	2006年9月21日	项目启动会议
4	2006年10月10日	邵武招投标会议
5	2006年10月12日	武夷山招投标会议
6	2006年11月6日	简易棚棚膜招投标会议
7	2006年12月20日	工程竣工
8	2007年3月28日	工程验收结束

南平烟区甲基溴熏蒸育苗示范中心项目

项目规模

类型	建设地点	规格（米）（长×宽×高）	数量（株）	建设面积（平方米）
A简易棚	邵武、武夷山	14.25×4×2.2	1080	61560
B型棚	邵武、武夷山	32×24×5.2	6	4608

南平烟区甲基溴熏蒸育苗示范中心项目

项目建设规模

2007年邵武市计划种植5.5万亩，收购16.5万担；武夷山市计划种植2.85万亩，收购8.5万担

项目示范中心育苗

邵武市和武夷山市示范中心育苗移栽面积均为11610亩，分别占该市总种植面积21.1%和40.7%

南平烟区甲基溴熏法育苗示范中心项目

主要内容

一、南平烟区简介

二、项目基本情况介绍

三、项目招投标情况

四、项目示范中心建设情况

五、项目验收

南平烟区甲基溴熏蒸育苗示范中心项目

项目招投标

- 根据要求,邵武和武夷山分公司项目招投标小组分别进行了招投标工作;
- 项目办公室刘雪刚、王新旺、吕源斌参加了项目投标会;
- 南平市公司审计科对招标程序及项目合同进行了审定。

南平烟区甲基溴熏蒸育苗示范中心项目

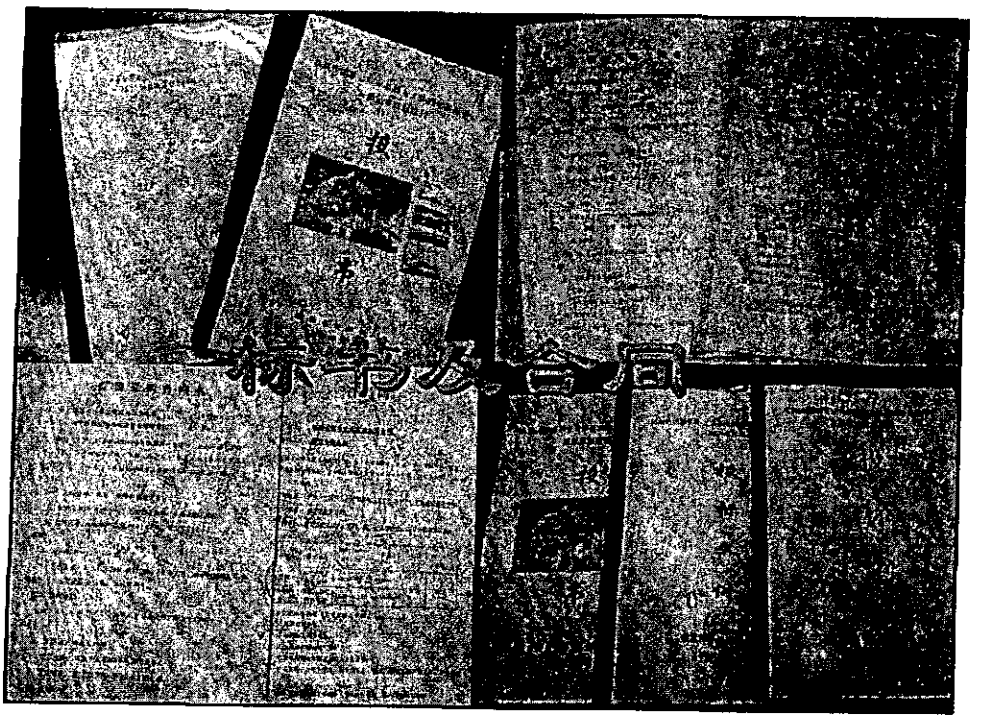
项目招投标情况


南平烟区甲基溴消毒苗床范中心项目
项目招投标情况
武夷山市烟草公司育苗示范中心
育苗温室建设项目招标会


南平烟区甲基溴消毒苗床范中心项目
项目招投标情况
育苗棚膜招标会议

项目招投标情况

投标项目	投标单位	单体棚投标金额		中标单位	招标单位
		简易棚	B型棚		
邵武市育苗中心温室主体建设项目	邵武市九禹工贸有限公司	1849.65	272405.76		邵武市烟草公司
	昆山市星亚园艺温室工程有限公司	1995.00	122880.00		
	固管东海机械厂	1536.15	103680.00	✓	
	吴江福丰温室设备有限公司	1704.30	96000.00		
	江西省农业机械研究所	1532.16	86845.44		
武夷山市育苗中心温室主体建设项目	厦门陆丰环境工程有限公司	2120.40	135168.00		武夷山市烟草公司
	福建省亚钢星阳机械制造有限公司	1972.20	126720.00		
	固管东海机械厂	1536.15	103680.00	✓	
简易棚棚膜	南平市科创机电设备设备有限公司	407.50	——	✓	邵武、武夷山市烟草公司
	福建省亚钢市长盛贸易有限公司	421.95	——		
	福州通宏贸易有限公司	430.68	——		



南平烟区甲基溴熏蒸育苗示范中心项目

主要内容

一、南平烟区简介

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四、项目示范中心建设情况

五、项目验收

南平烟区甲基溴熏蒸育苗示范中心项目

项目示范中心建设

- 武夷山市育苗示范中心介绍
- 邵武市育苗示范中心介绍
- 育苗示范中心管理

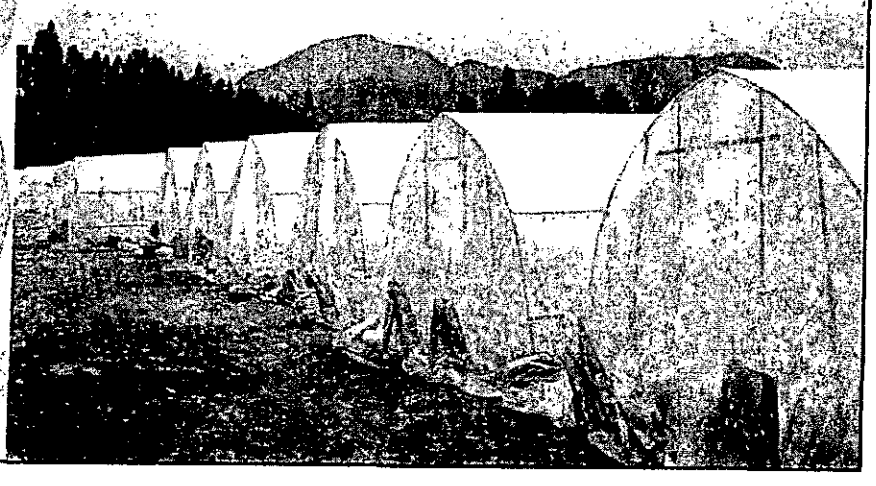
南平烟区甲基溴淘汰育苗示范中心项目

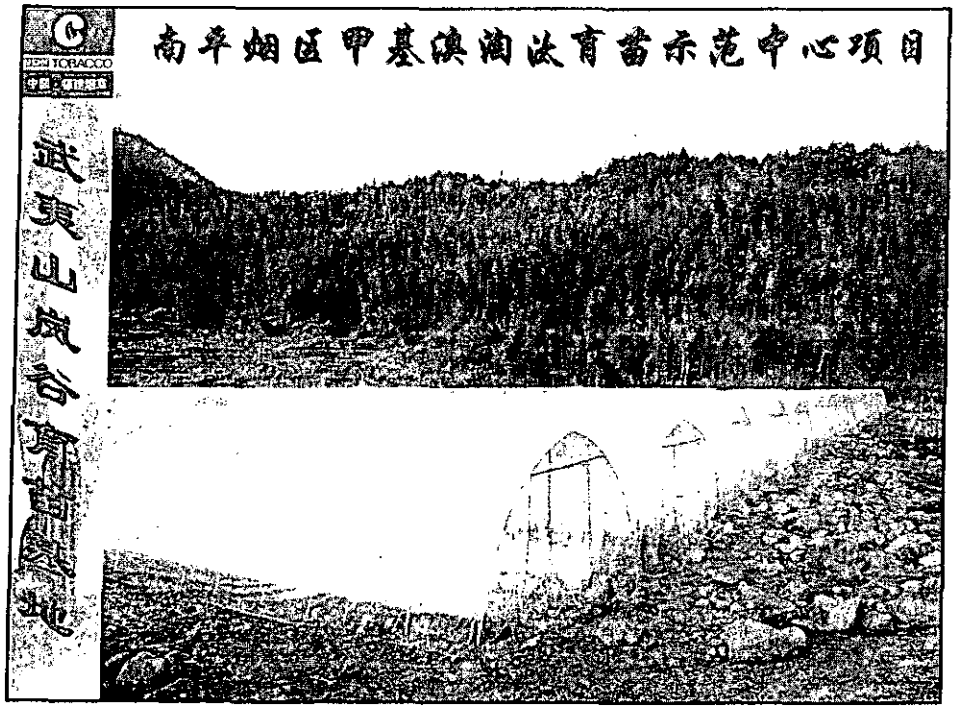
简易棚分布

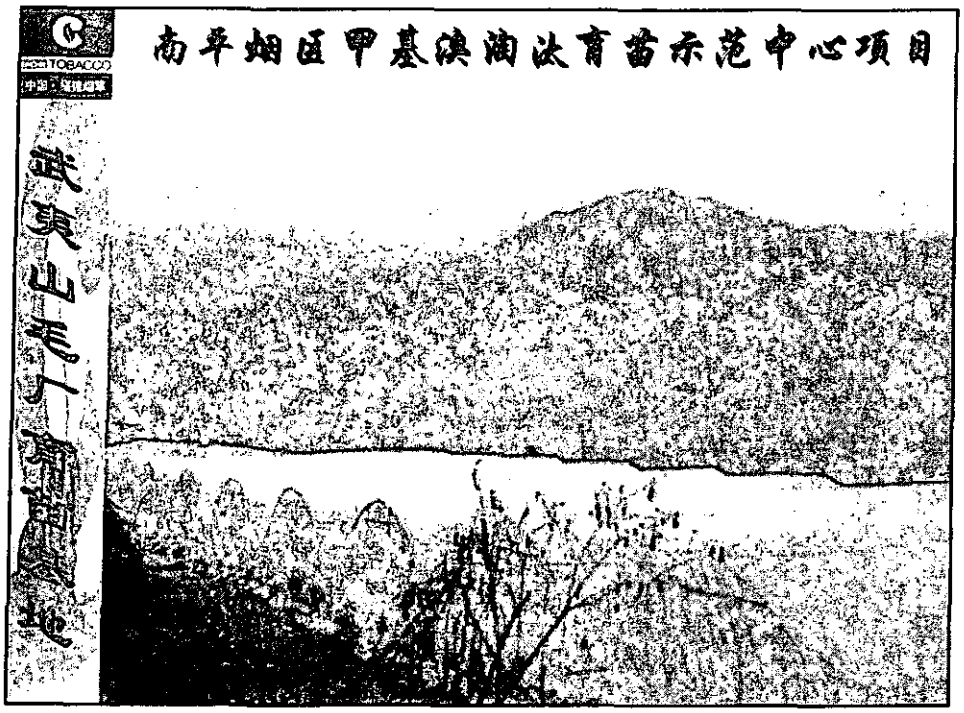
武夷山市分布站点	数量
武夷烟草站	160
岚谷烟草站	52
上梅烟草站	20
兴田烟草站	151
五夫烟草站	99
星村烟草站	58

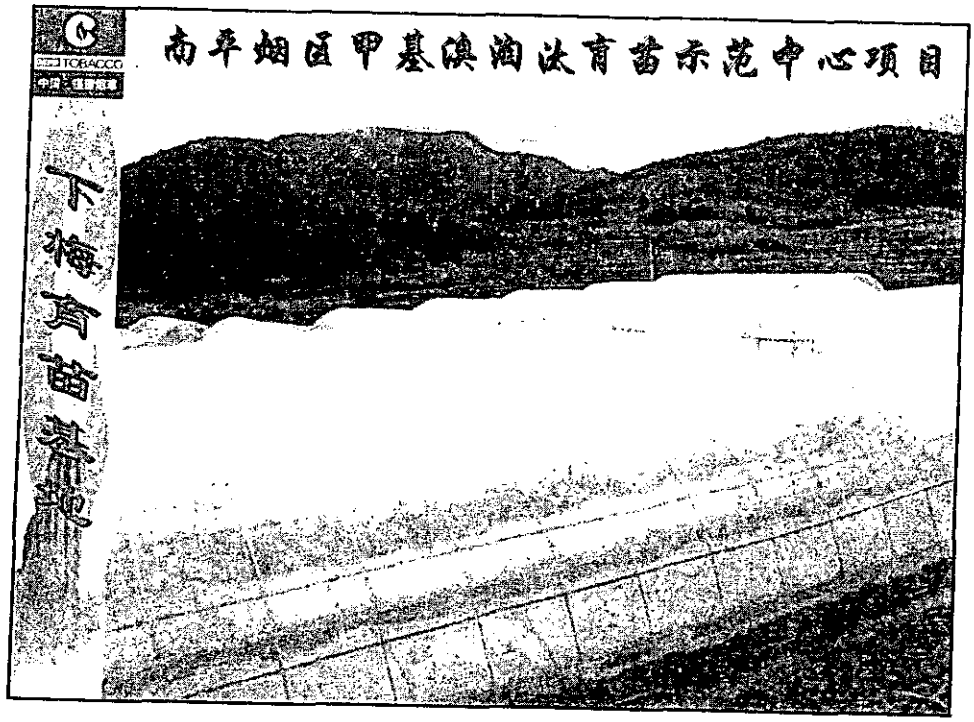
南平烟区甲基溴淘汰育苗示范中心项目

武夷山五夫育苗点

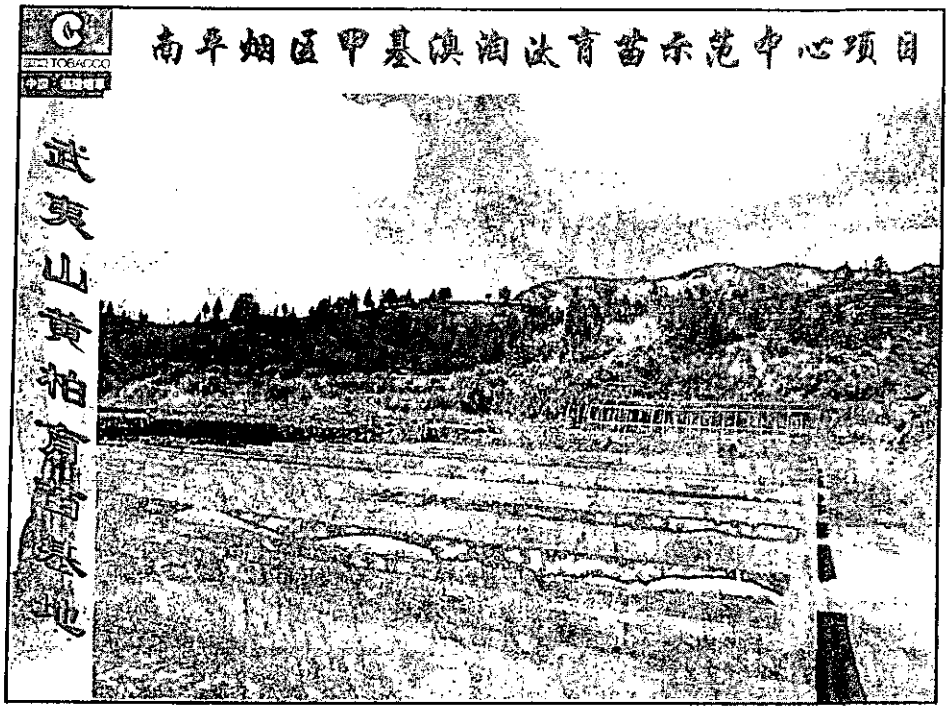


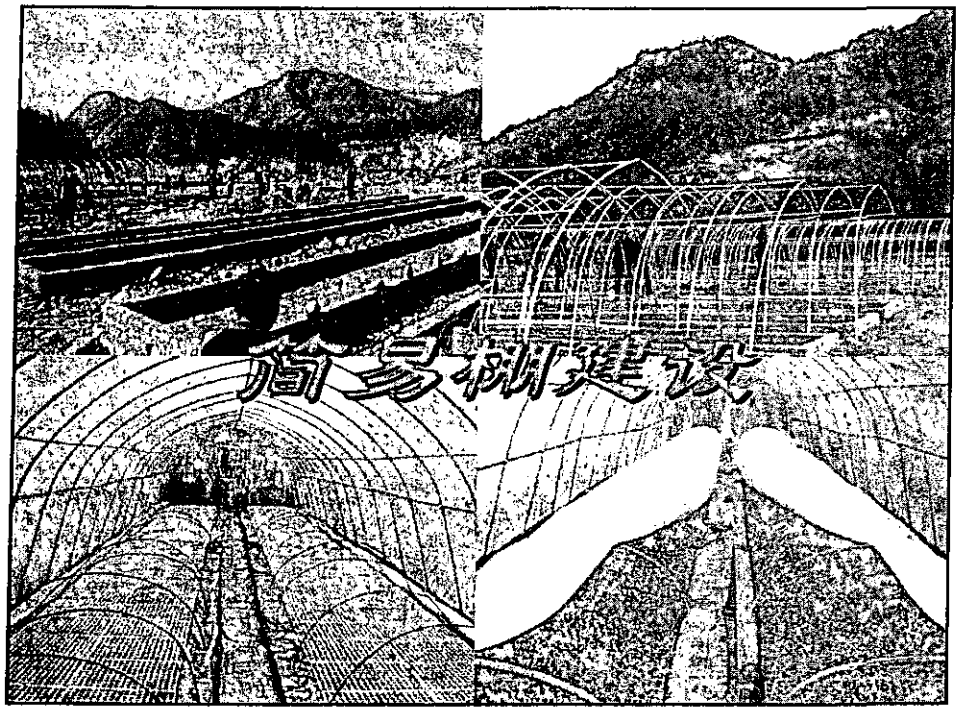

南平烟区甲基溴熏法育苗示范中心项目


南平烟区甲基溴熏法育苗示范中心项目


南平烟区甲基溴淘汰育苗示范中心项目
下梅育苗基地


南平烟区甲基溴淘汰育苗示范中心项目
武夷山市武夷镇
商品化育苗基地


南平烟区甲基溴熏蒸替代育苗示范中心项目
武夷山育苗基地


简易测墒仪

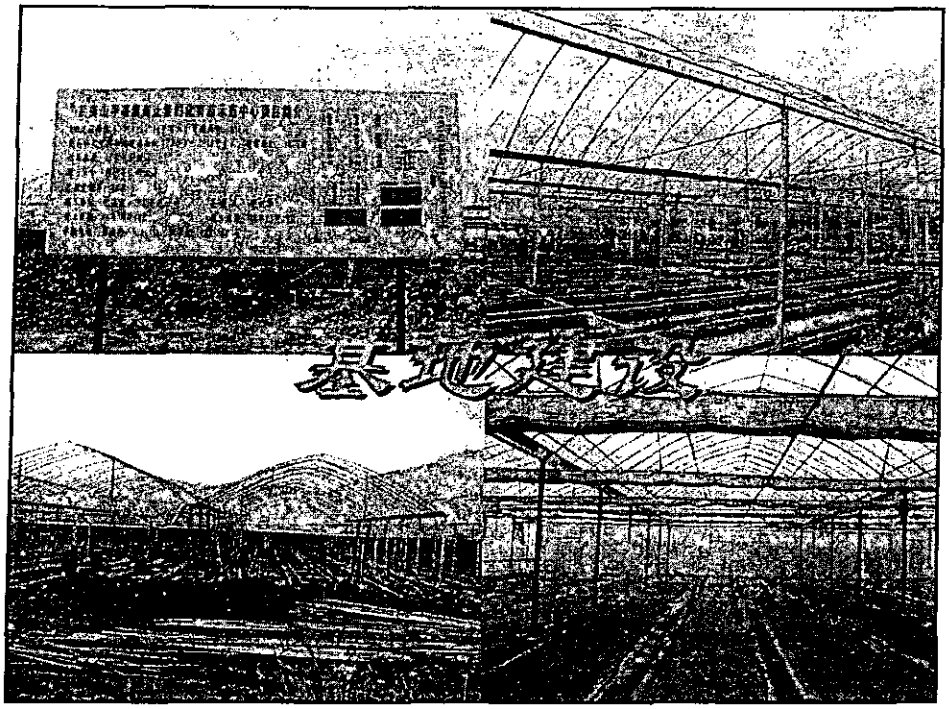
南平烟区甲基溴熏蒸育苗示范中心项目

武夷山南岸育苗示范中心

南岸育苗示范中心占地面积约20亩，主要建设3个钢架B型棚，建设面积2304平方米，可育苗810亩；50个简易钢架可拆卸大棚，建设面积2850平方米，可育苗1000亩。

中心同时配备仓库、办公区、播种区和垃圾池等附属设施。中心大棚建设资金40.82万元，基础设施预计50万元。

南平烟区甲基溴熏蒸育苗示范中心项目



南平烟区甲基溴消达育苗示范中心项目

项目示范中心简介

- 武夷山市育苗示范中心介绍
- 邵武市育苗示范中心介绍
- 育苗示范中心管理

南平烟区甲基溴熏蒸育苗示范中心项目

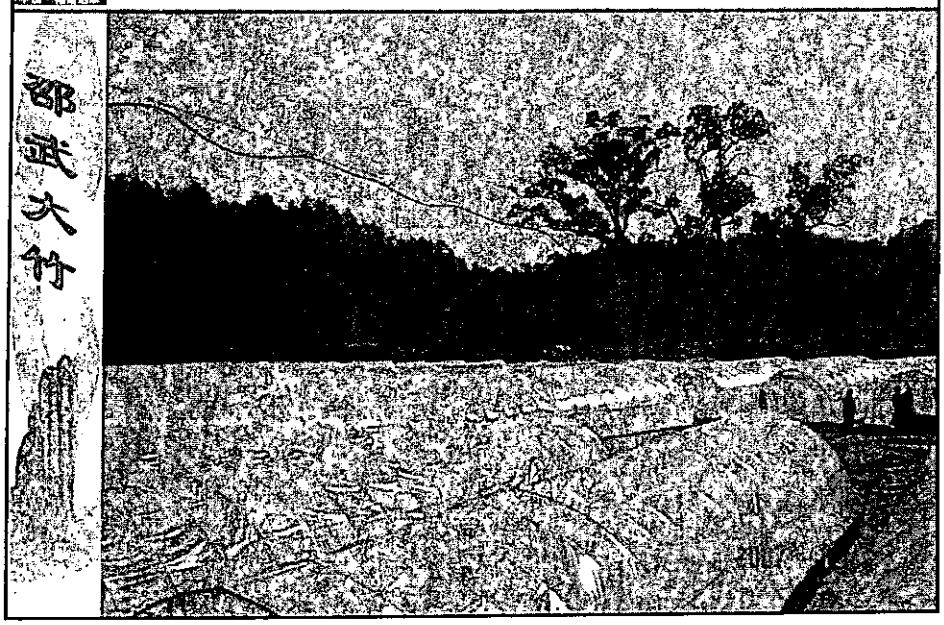
育苗棚分布

邵武市分布站点	数量
大竹烟草站	183
和平烟草站	95
沿山烟草站	162
金坑烟草站	10
卫闽烟草站	10
肖家坊烟草站	80

南平烟区甲基溴熏蒸育苗示范中心项目

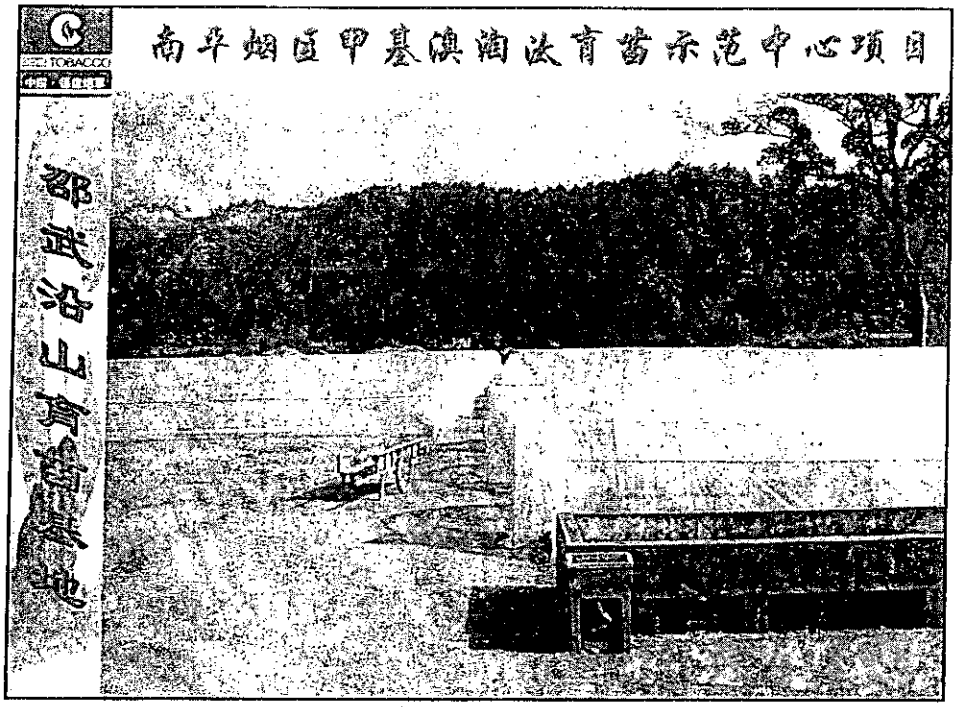
邵武和平

南平烟区甲基溴烟法育苗示范中心项目

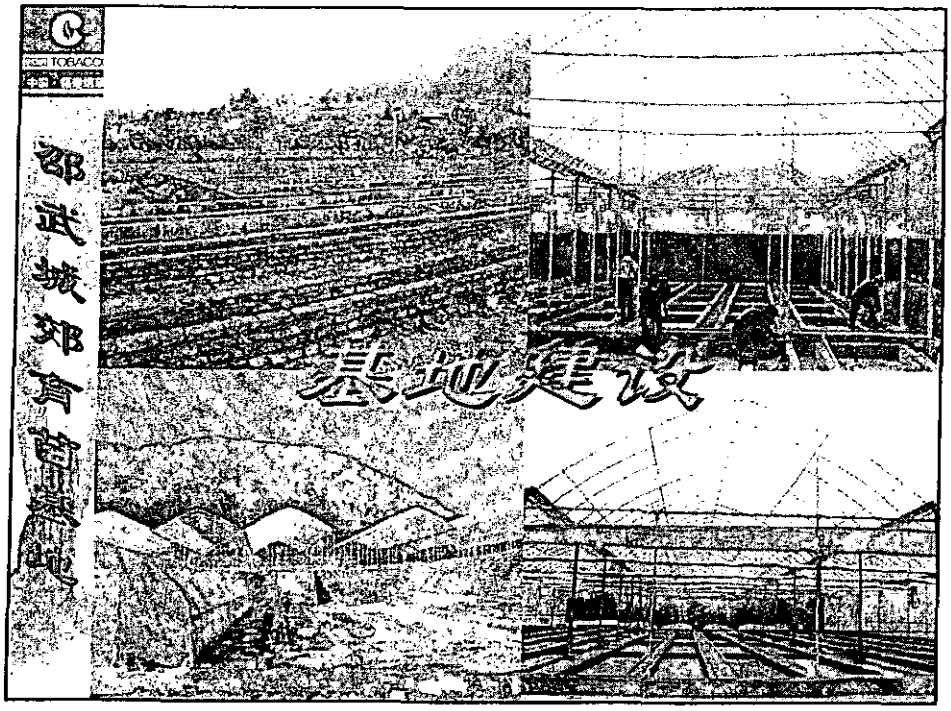


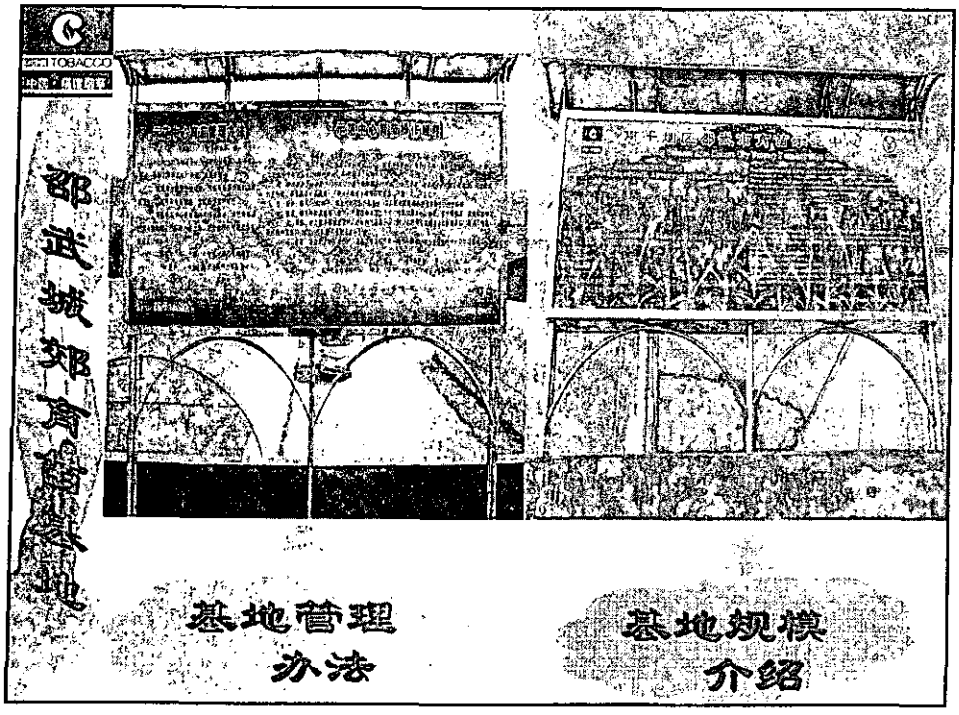
南平烟区甲基溴烟法育苗示范中心项目

基地位于邵武市沿山镇徐溪村，占地面积15亩，共建设简易可拆卸棚80个，可育苗1600亩，大棚骨架总投入资金16万，基础设施总投入资金6万元。


南平烟区甲基溴烟床育苗示范中心项目
邵武沿山育苗基地


南平烟区甲基溴烟床育苗示范中心项目
邵武城郊育苗基地
基地位于邵武市城郊镇吉
铺村，占地面积12亩；2005
年建设12个钢架大棚，2006
年新建3个B型棚，总共可育
苗1350亩，大棚育苗总投入
资金215万，基地设施移投
入资金38.6万元。


TOBACCO
邵武城郊育苗基地
基地建设


TOBACCO
邵武城郊育苗基地
基地管理
办法
基地规模
介绍

南平烟区甲基溴淘汰育苗示范中心项目

项目示范中心概况

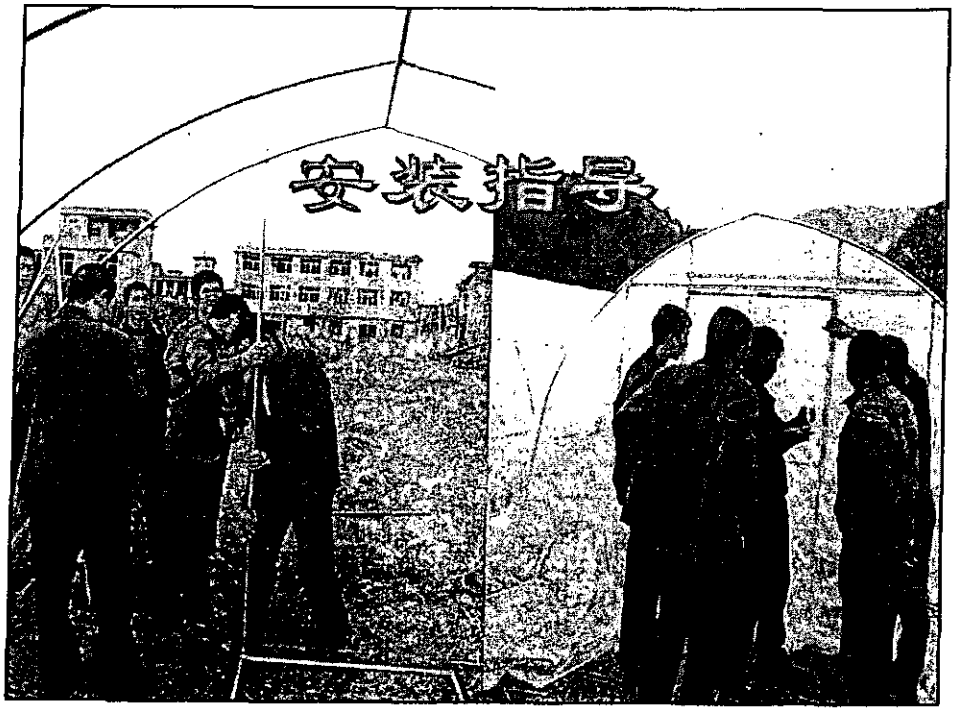
- 武夷山市育苗示范中心介绍
- 邵武市育苗示范中心介绍
- 育苗示范中心管理

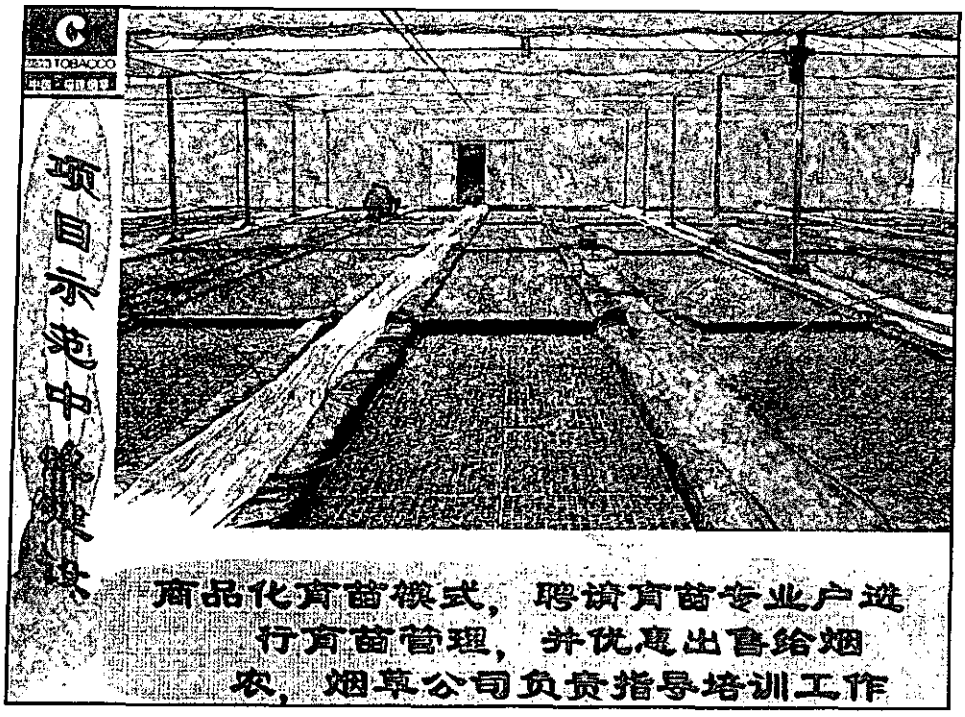
南平烟区甲基溴淘汰育苗示范中心项目

育苗示范中心管理

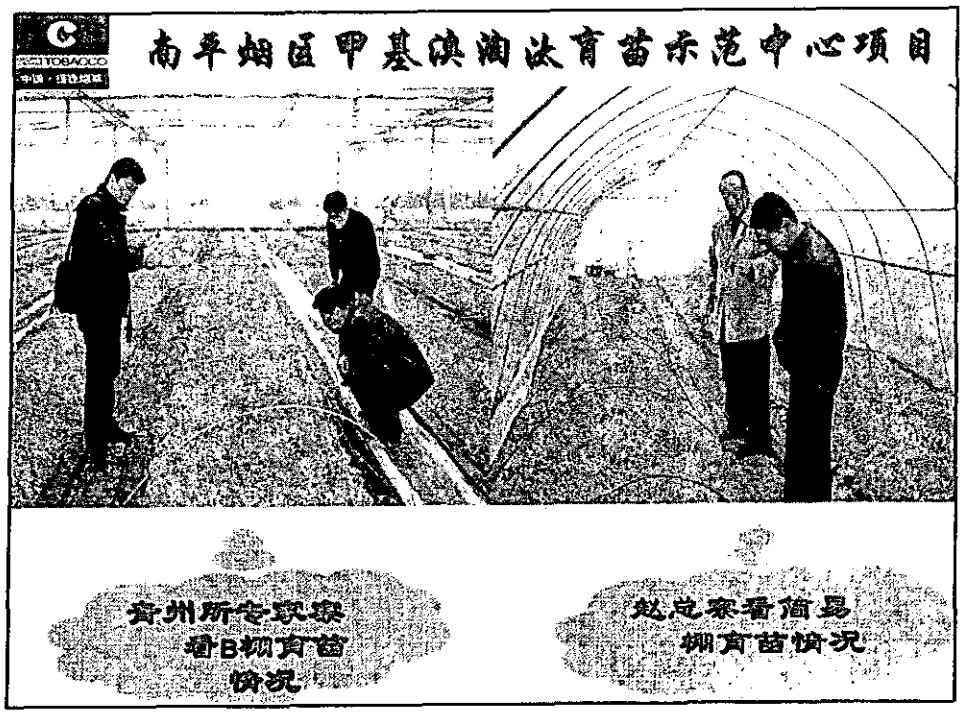
- 简易棚温室相对集中，形成集约化育苗基地　育苗专业户签订合同后拥有使用权,并负责管理，属于小型集约化育苗，就近出售给烟农，操作性强，利于推广；
- 以B型棚为中心，成立现代化商品育苗基地　建立商品化育苗基地，配备仓库、办公区、播种区和垃圾池等附属设施，漂浮育苗操作技术规范化程度高，消毒设施齐全；
- 专业户集中管理，确保育苗质量

烟草公司负责提供所有育苗中心育苗物质，并根据需要对育苗专业户进行育苗培训，加强育苗中心的监督和管理。


安装指导


项目示范中
商品化育苗模式，聘请育苗专业户进
行育苗管理，并优惠出售给烟
农，烟草公司负责指导培训工作


领导视察


南平烟区甲基溴熏蒸替代育苗示范中心项目
贵州所专职检查B棚育苗情况
赵总察看简易棚育苗情况

南平烟区甲基溴淘汰育苗示范中心项目

主要内容

一、南平烟区简介

二、项目基本情况介绍

三、项目招投标情况

四、项目示范中心建设情况

五、项目验收

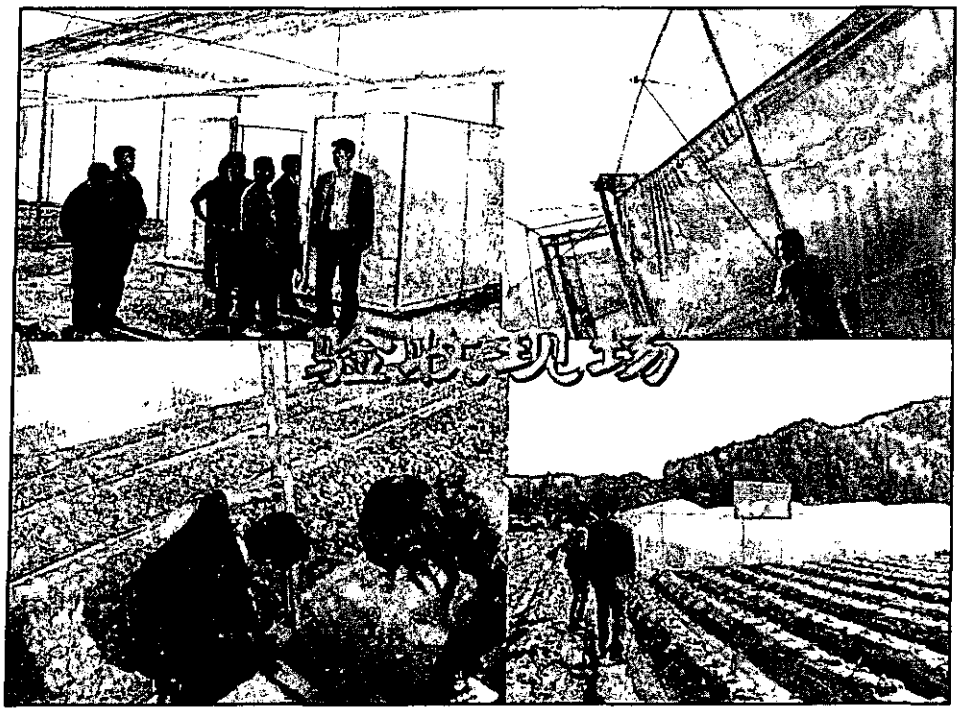
南平烟区甲基溴淘汰育苗示范中心项目

项目验收情况

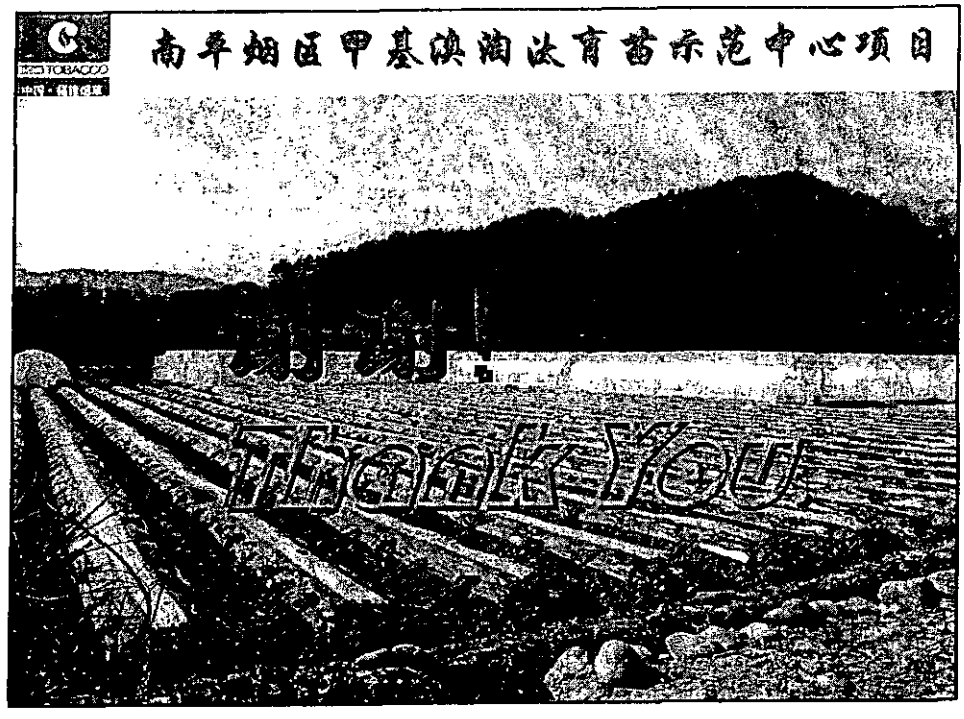
- 南平市公司组织邵武和武夷山分公司审计、监察、综合计划等科室以及项目建设领导小组相关人员成立验收小组对项目进行验收；
- 根据《烟草行业甲基溴淘汰（二期）"甲基溴淘汰集约化育苗示范中心"建设工作实施指南》要求对项目物质采购招投标资料、采购合同以及资金往来发票等进行了审核；
- 召开项目验收会议，听取建设单位及施工单位的建设报告，最后签定《项目验收表》。


南平烟区甲基溴淘汰育苗示范中心项目
验收项目验收

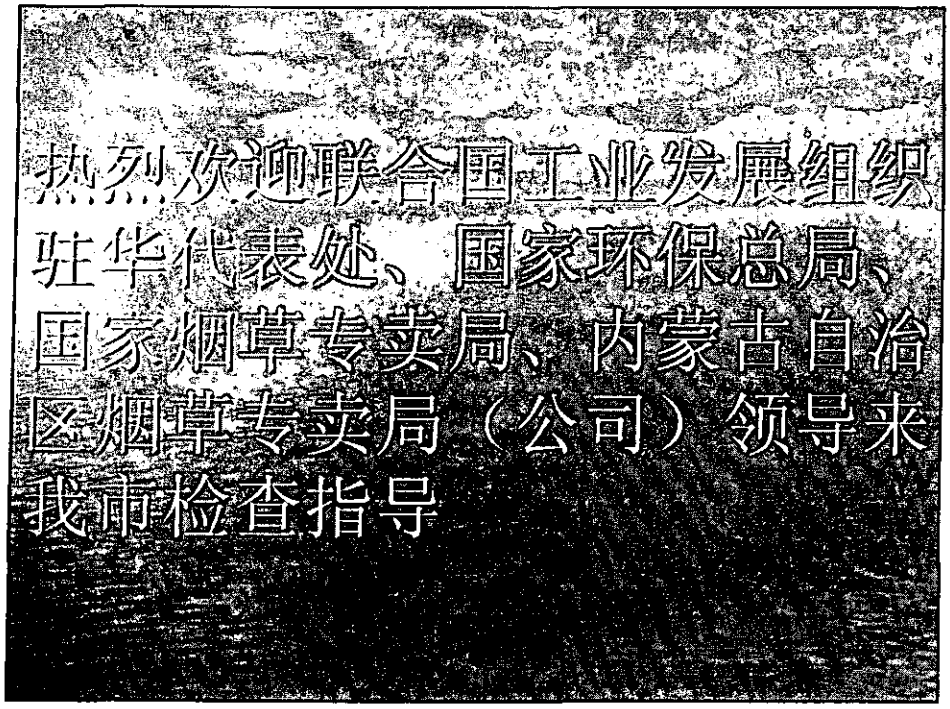

南平烟区甲基溴熏蒸替代育苗示范中心项目

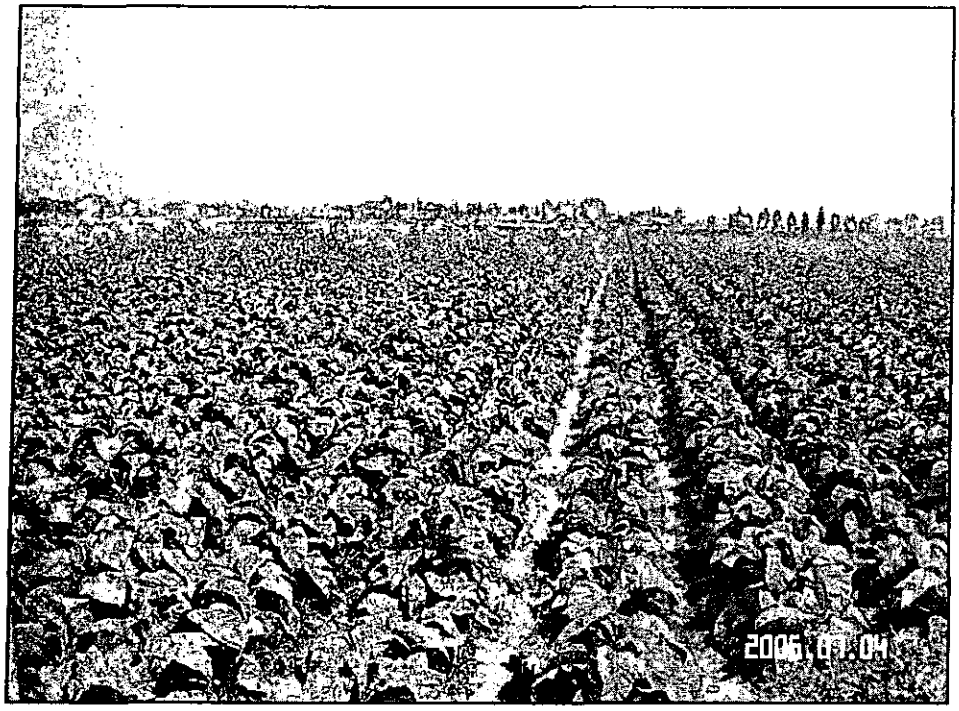


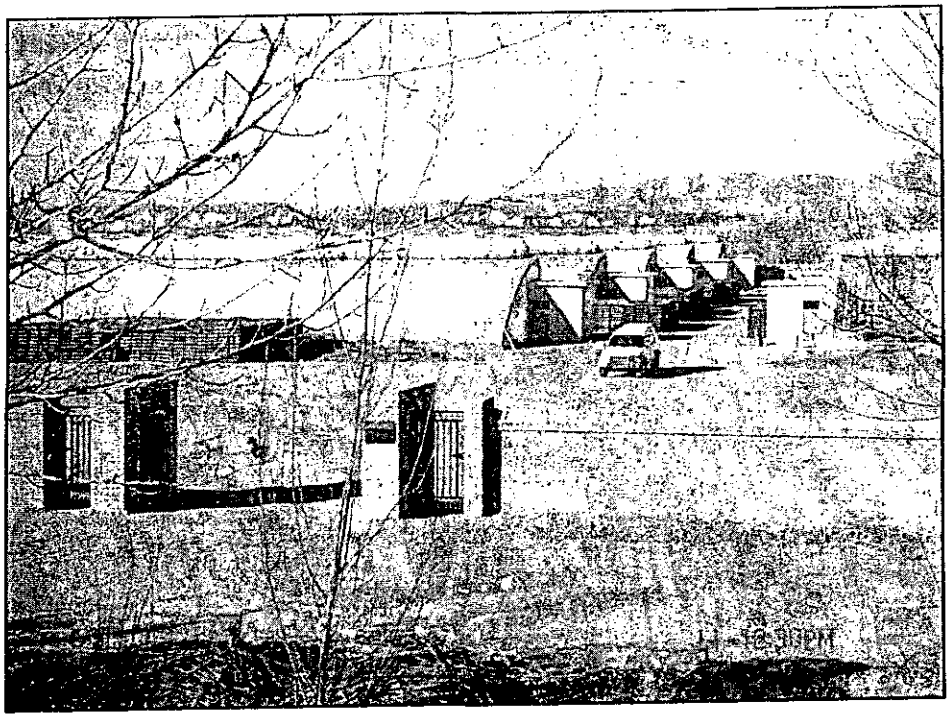

南平烟区甲基溴油法育苗示范中心项目
项目验收
育苗示范中心用户验收报告

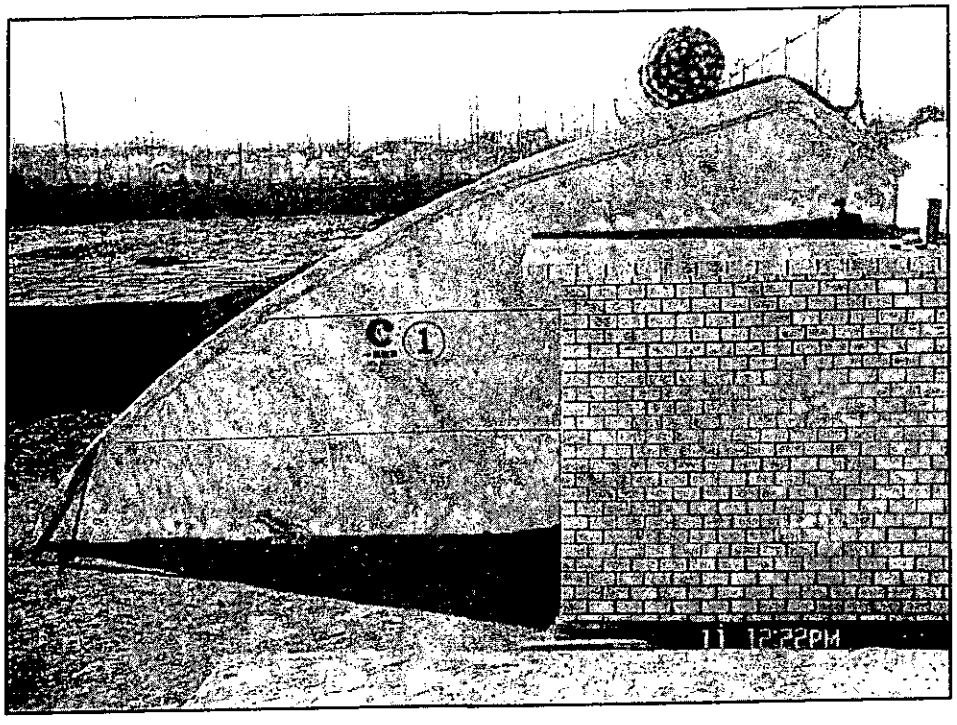

南平烟区甲基溴油法育苗示范中心项目

Annex III


热烈欢迎联合国工业发展组织
驻华代表处、国家环保总局、
国家烟草专卖局、内蒙古自治
区烟草专卖局（公司）领导来
我市检查指导


2006.08.04

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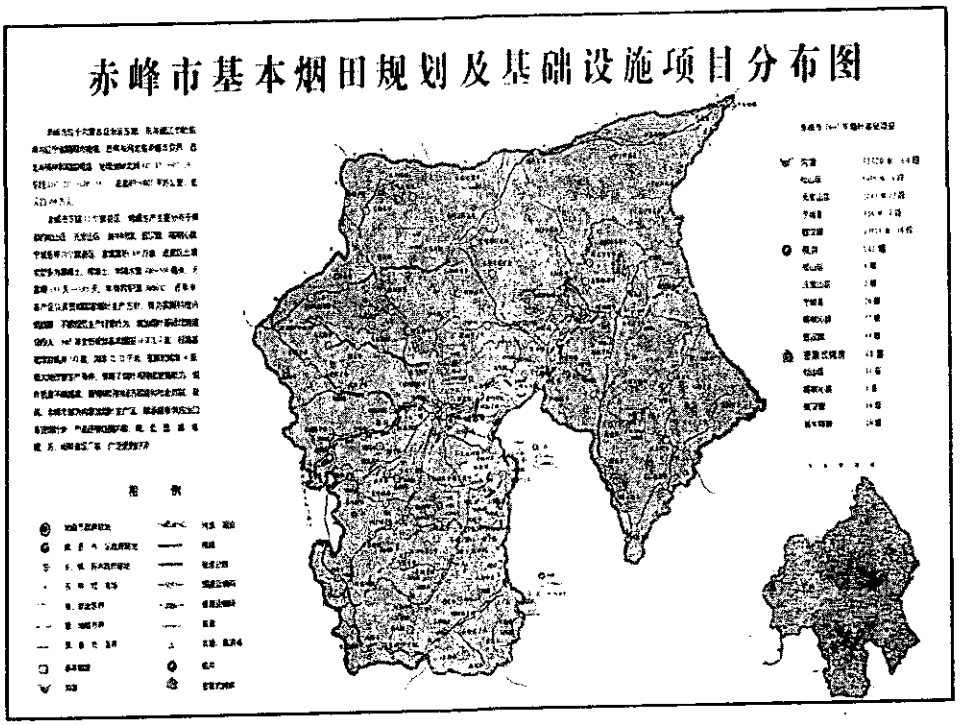
履行承诺 保护环境

项目区概况



地理坐标

- 北纬41°17'-45°24'
- 东经116°21'-120°59'

面积人口

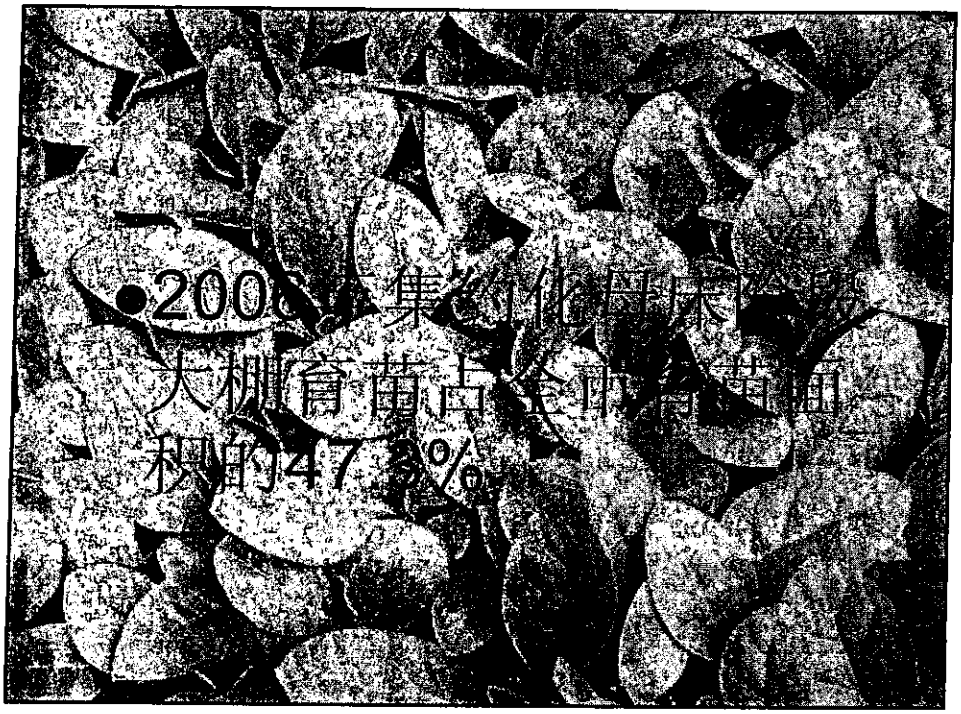
- 总面积90021平方公里
- 总人口459万人

气候环境

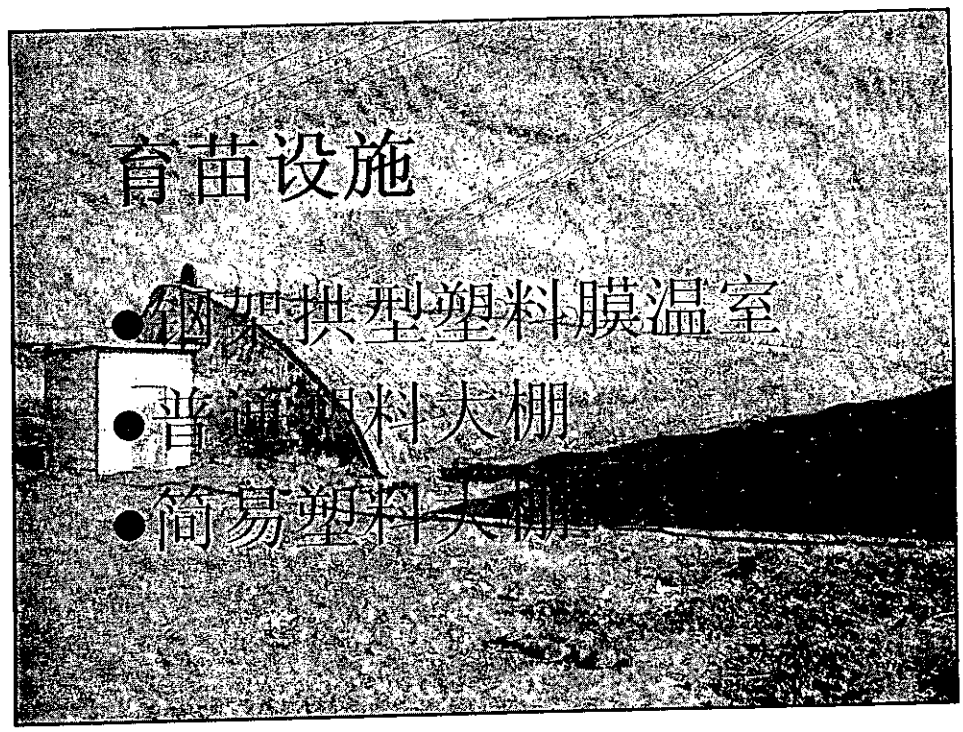
- 年降水量400-500mm
- 无霜期135-145天
- ≥10℃有效积温3000℃

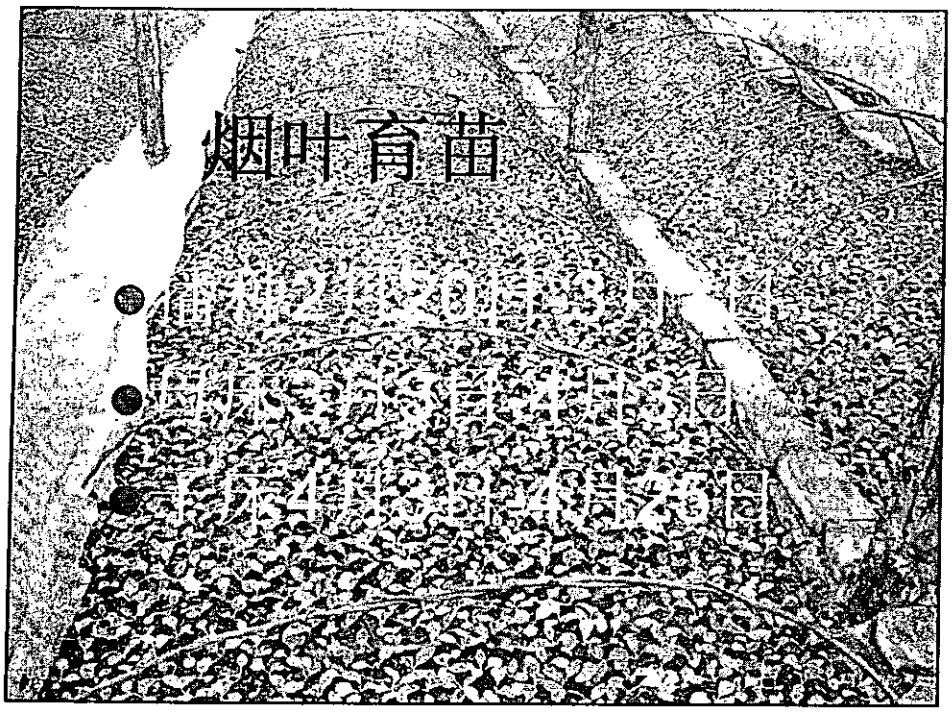
烟叶育苗形式

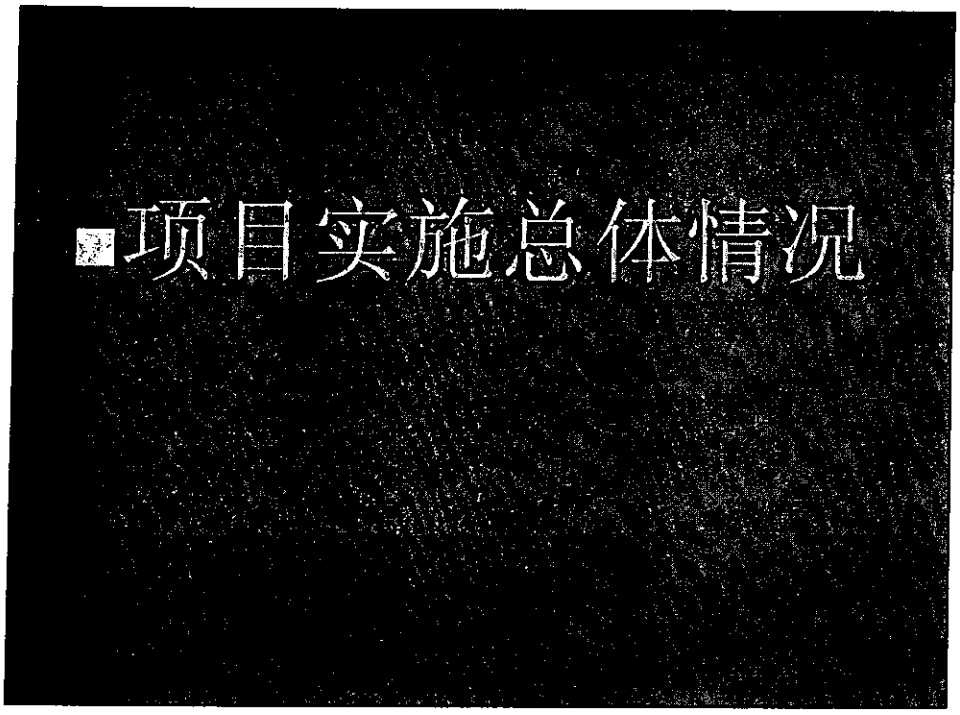
- 集约化母床阶段大棚育苗
- 以各烟户为单位的“双棚母床悬床假植育苗”




其中托盘育苗占50%

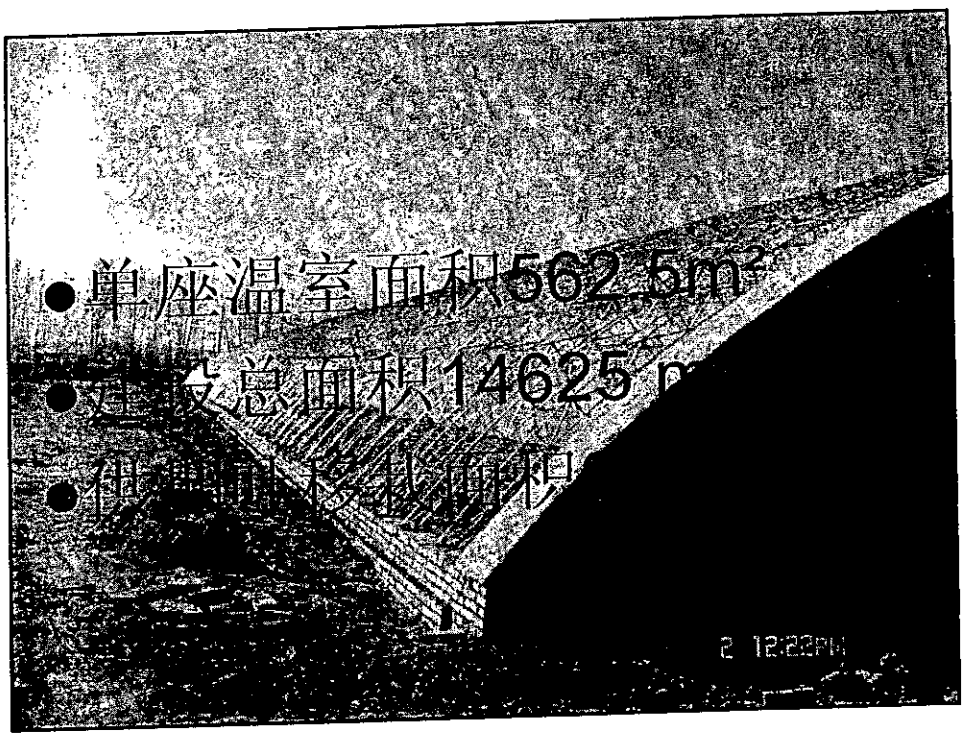

育苗设施
●钢架拱型塑料膜温室
●普通塑料大棚
●简易塑料大棚


烟叶育苗


项目实施总体情况

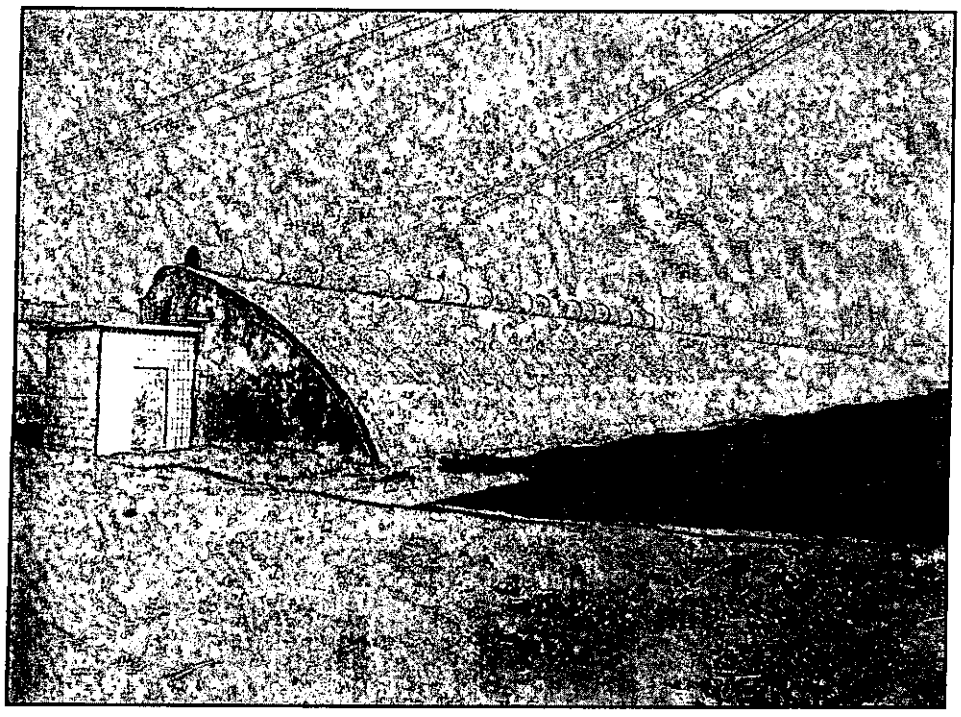
甲基溴淘汰温室建设分布

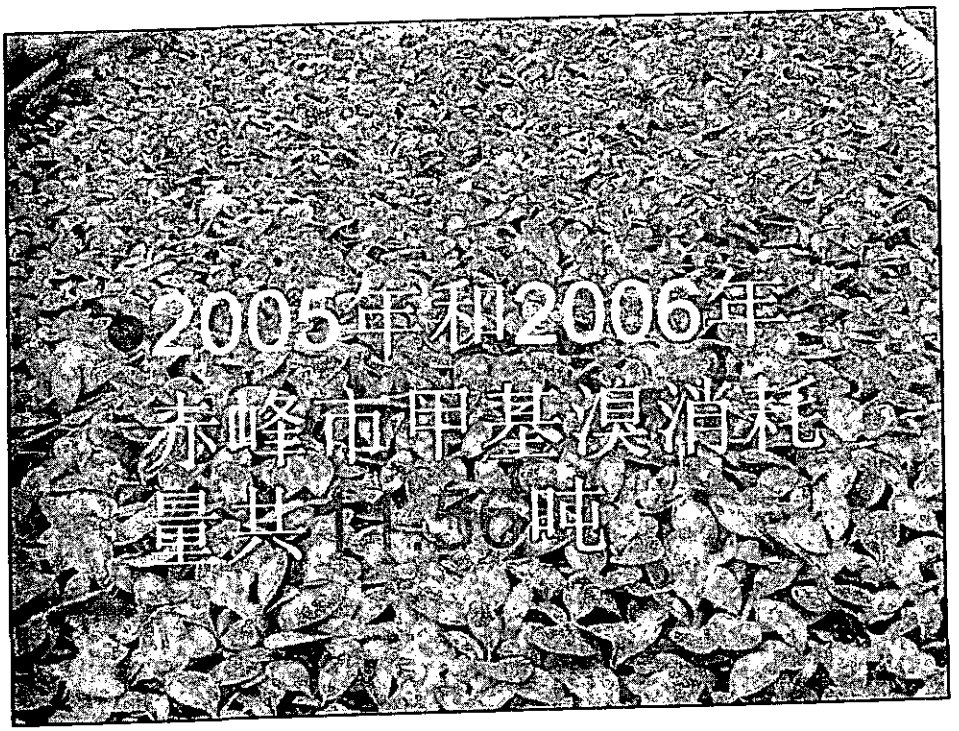
- 松　山　区：10座
- 元宝山区：　3座
- 宁　城　县：13座



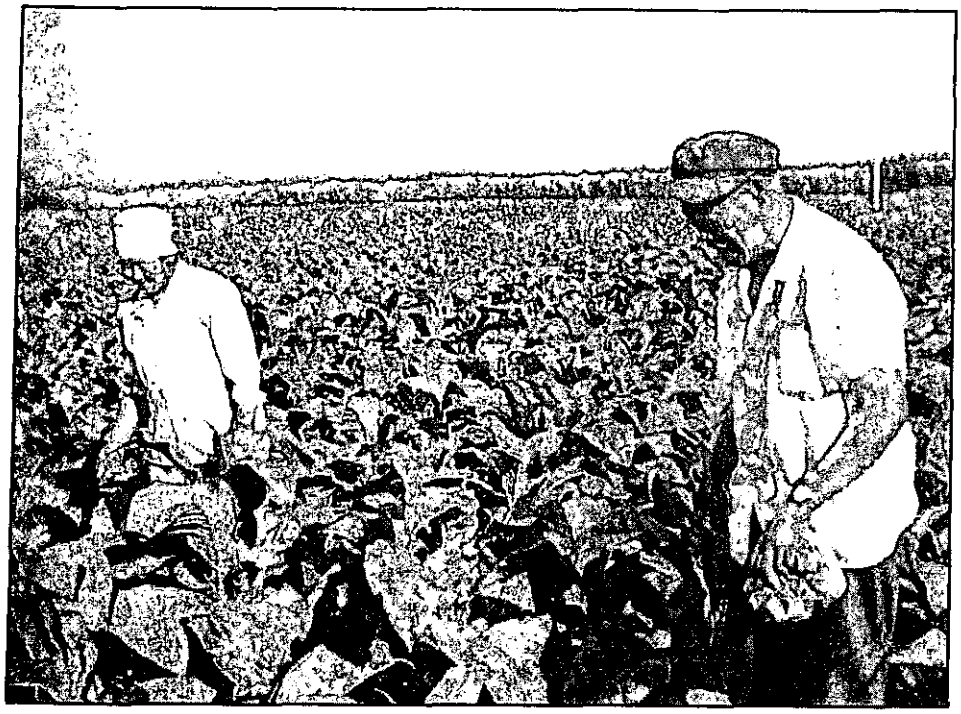
全市现有温室情况

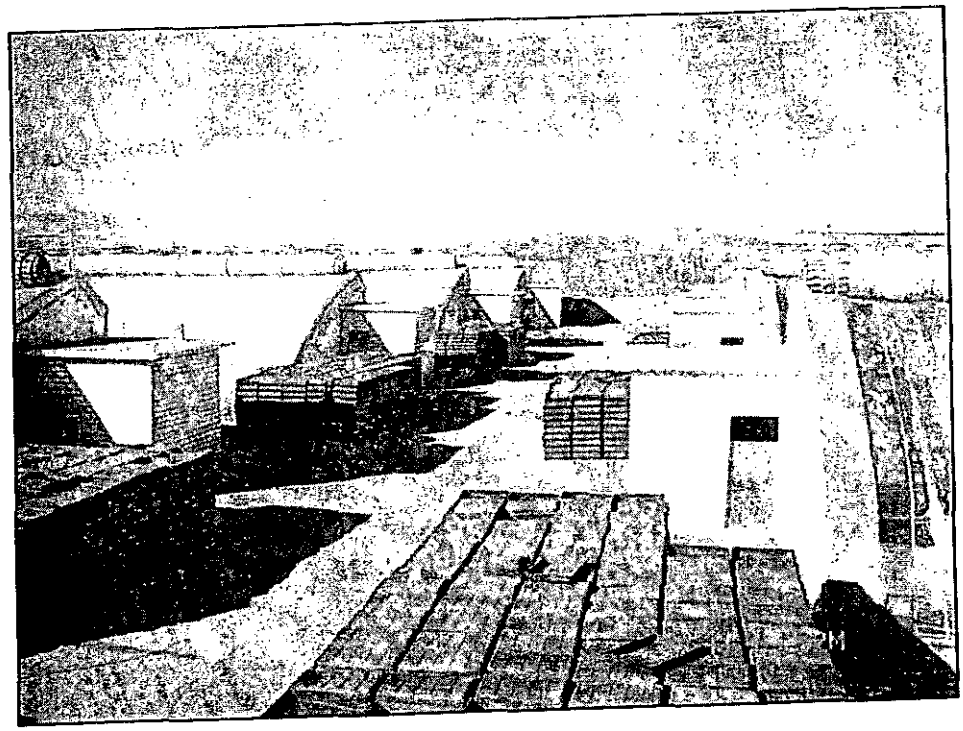
- 温室总面积17114平方米
- 可供移栽面积3.42万亩
- 占2007烟叶计划种植面积4.04万亩的84.6%

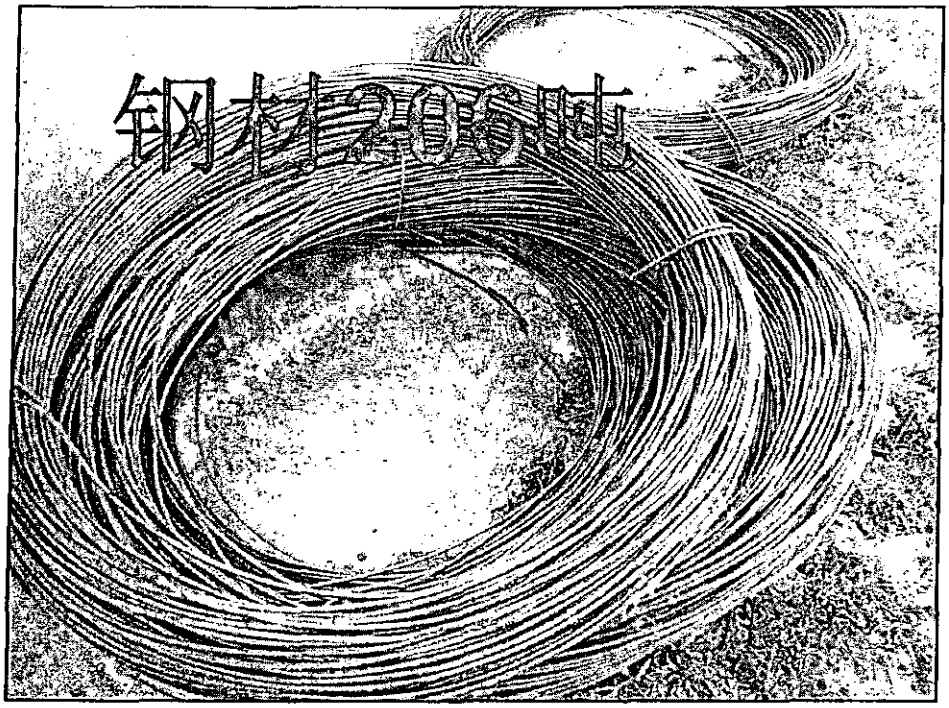


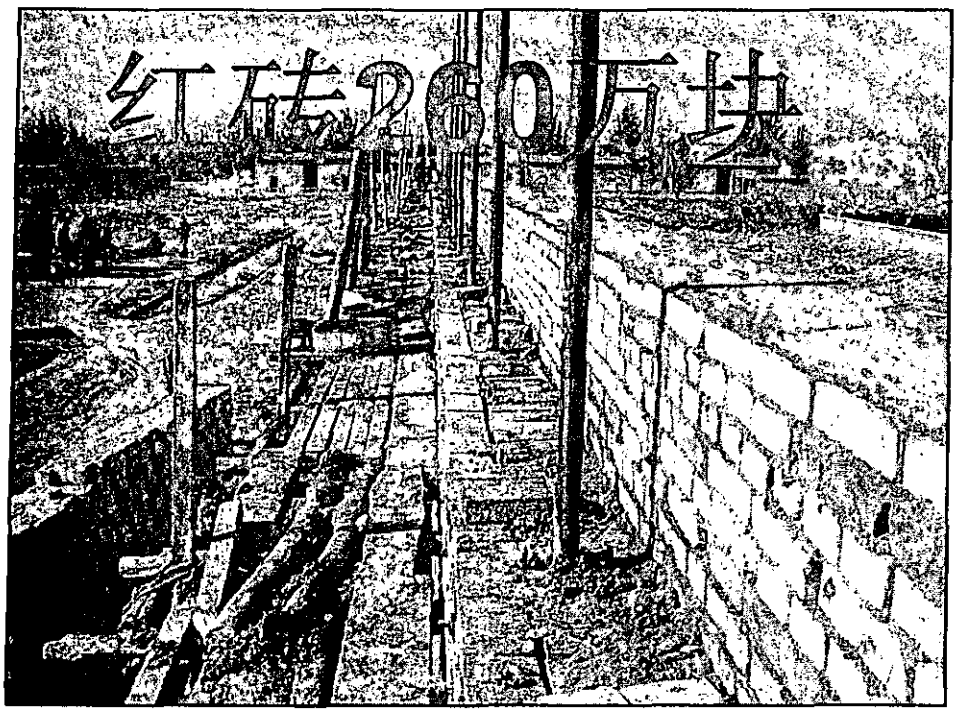

2005年和2006年
赤峰市甲基溴消耗
量共计1.56吨


赤峰地区
2005年1月1日前
彻底淘汰甲基溴在
烟叶育苗上的使用
2006.01.04



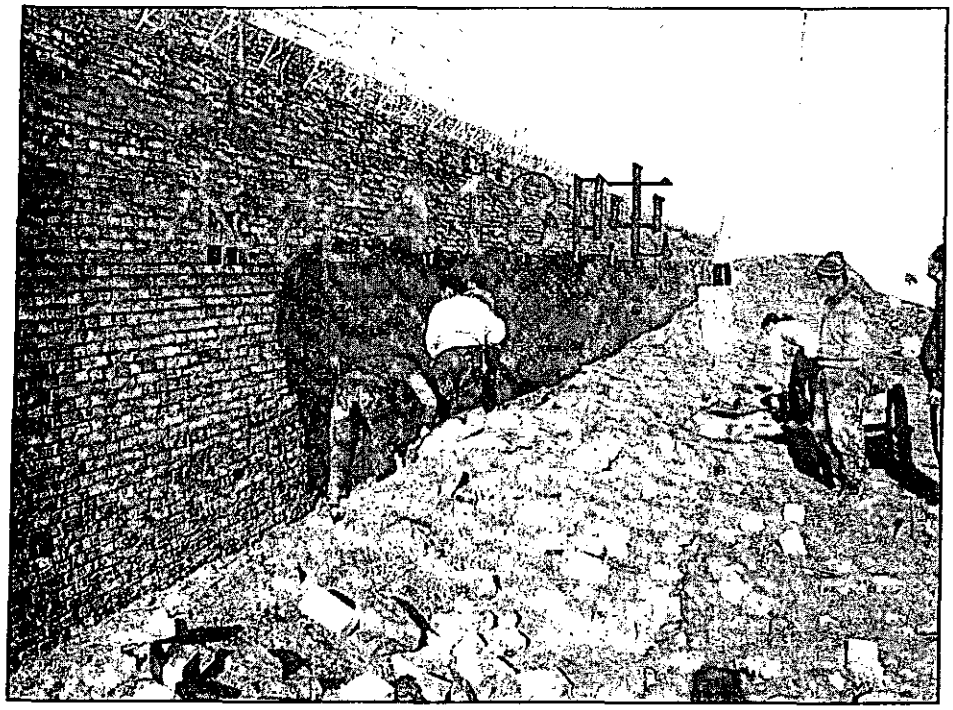


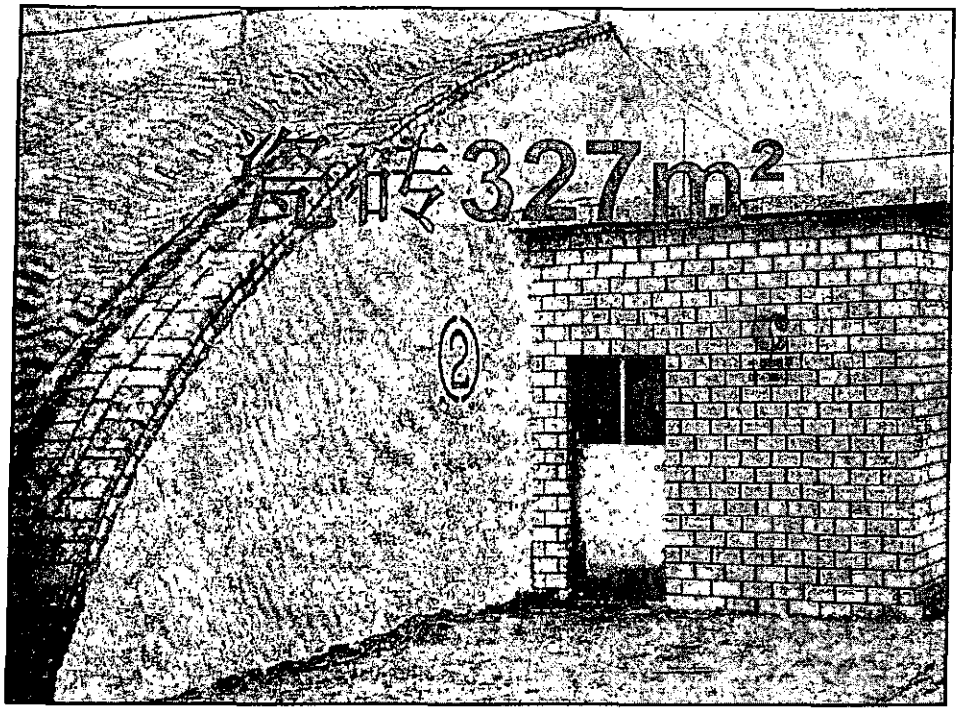

钢材约2000吨

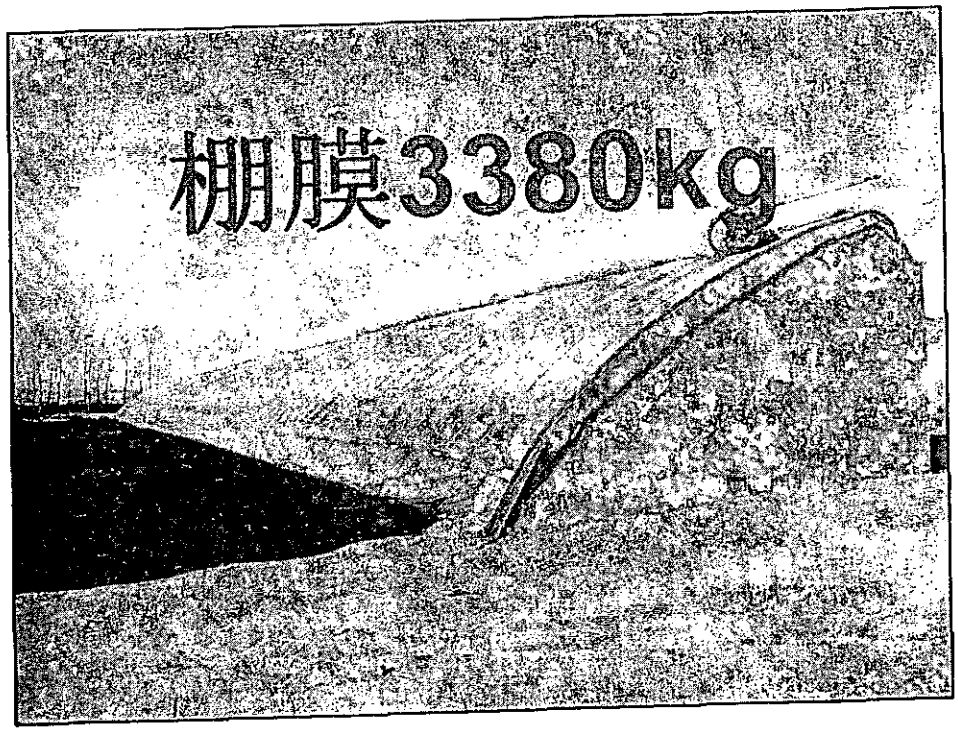

红砖260万块

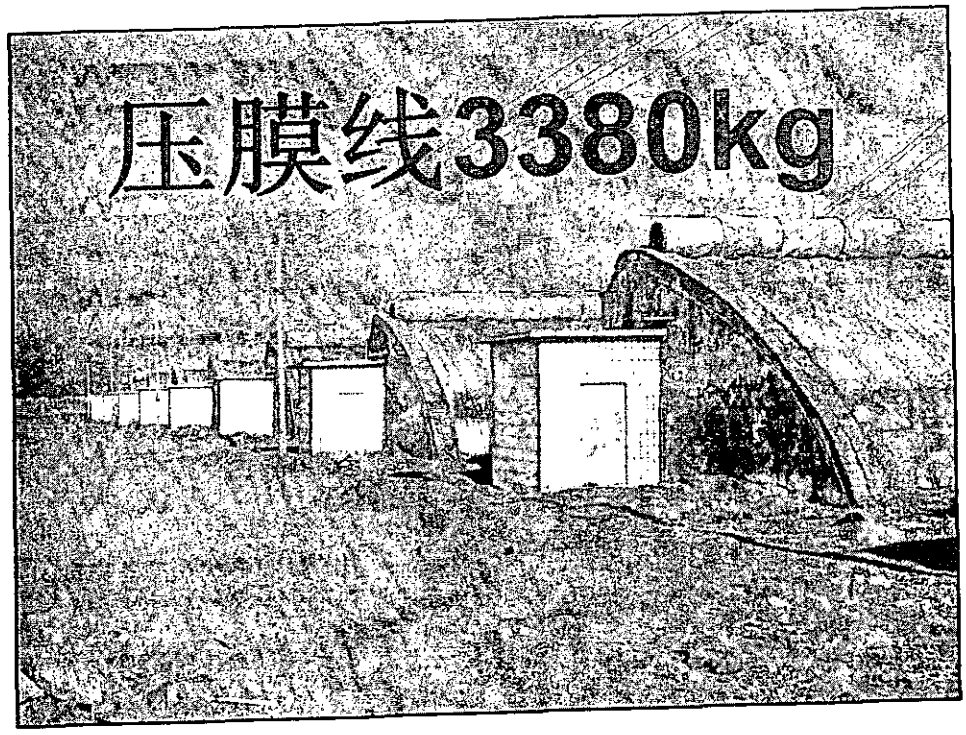

砂土方7941m³

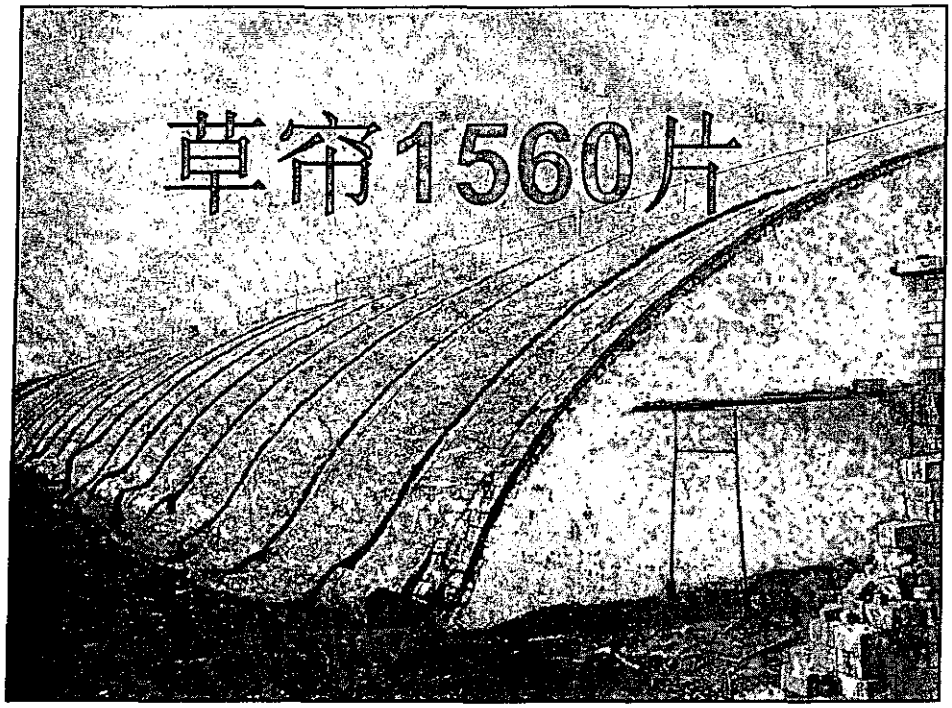

石料1143 m³




⑨
327m²


棚膜3380kg

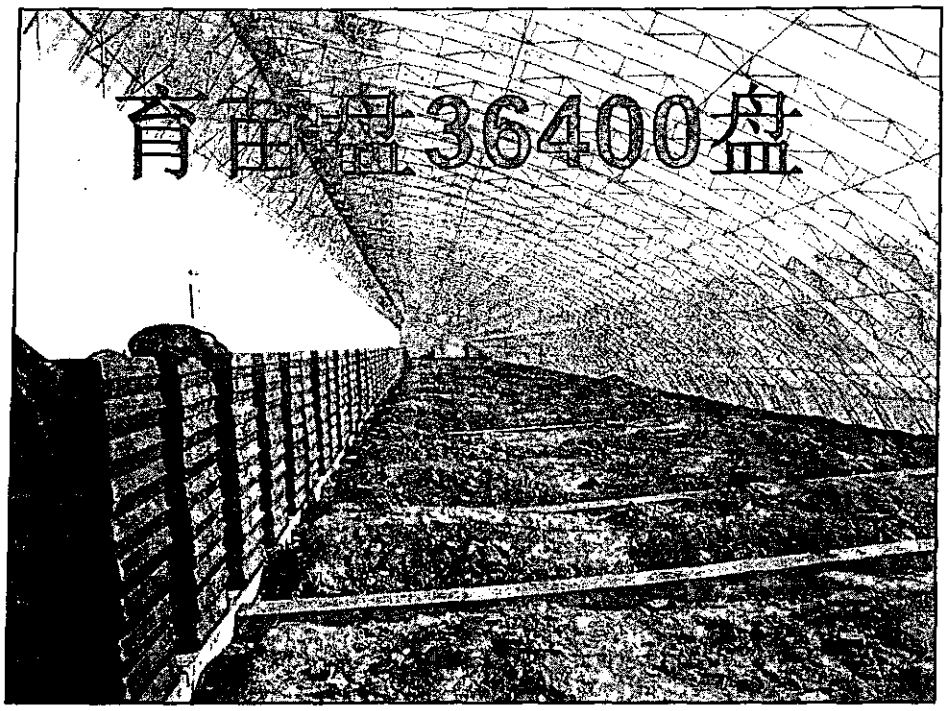

压膜线3380kg

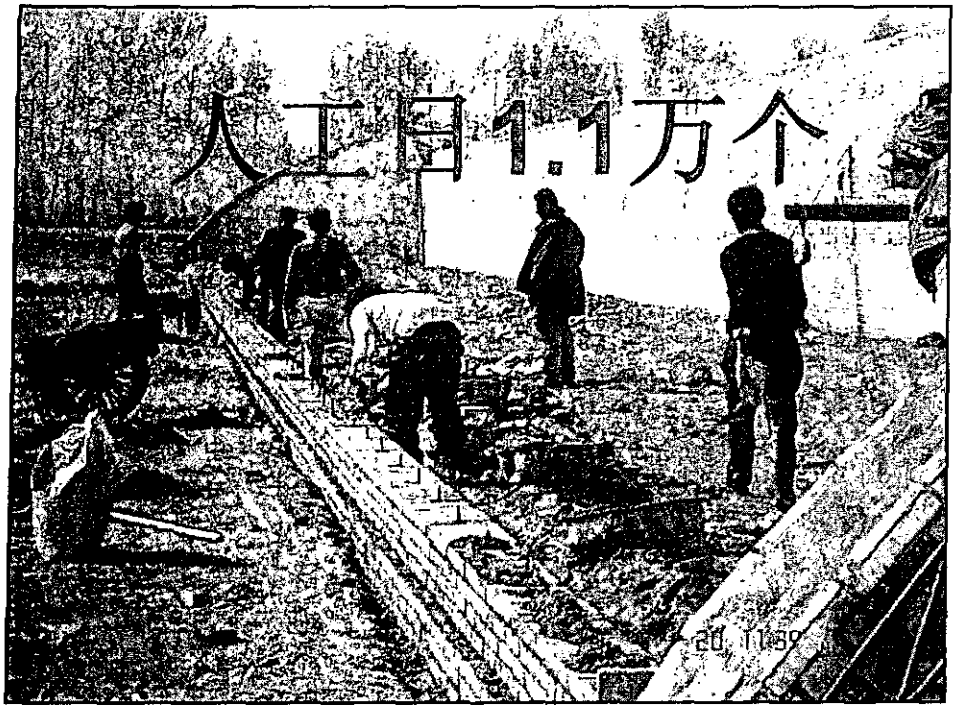

草帘1560片


防雪布18772 m²
19 3:43PM

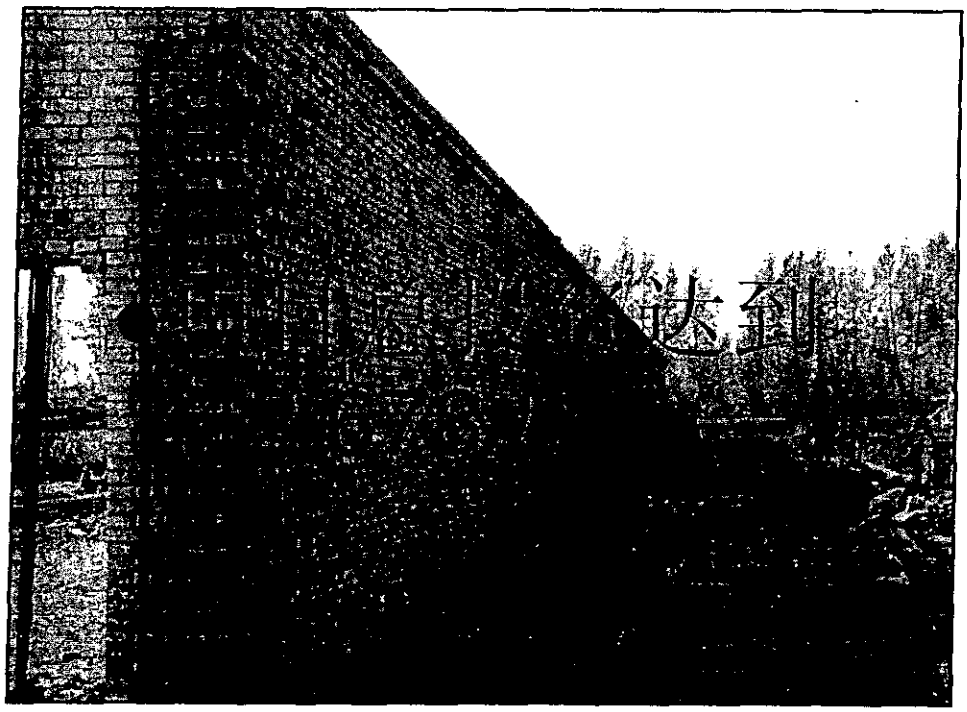

卷帘机械26套

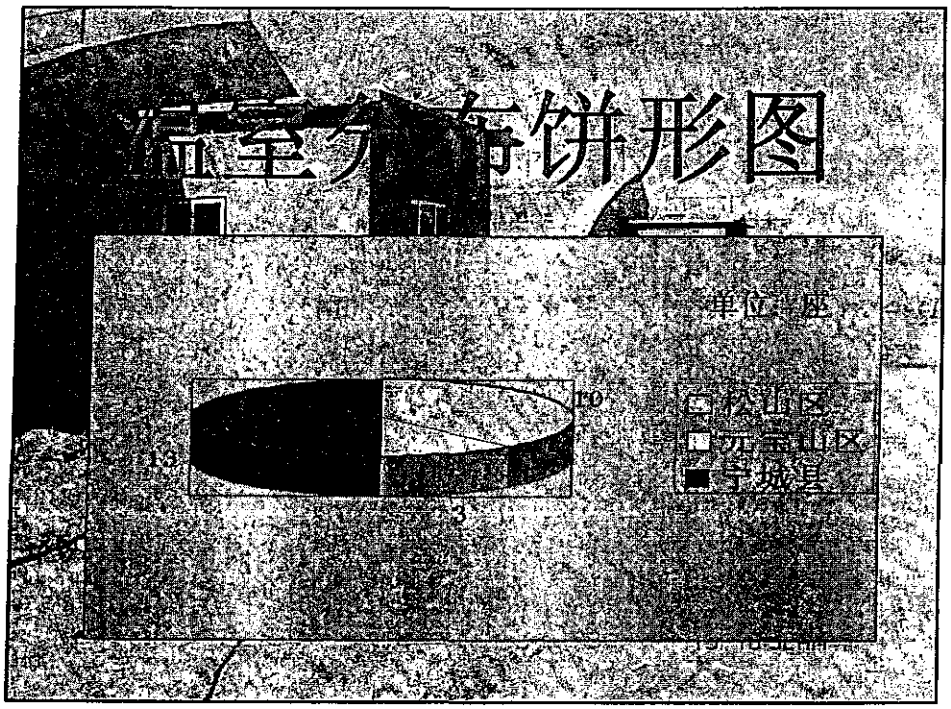

滴灌设备26套

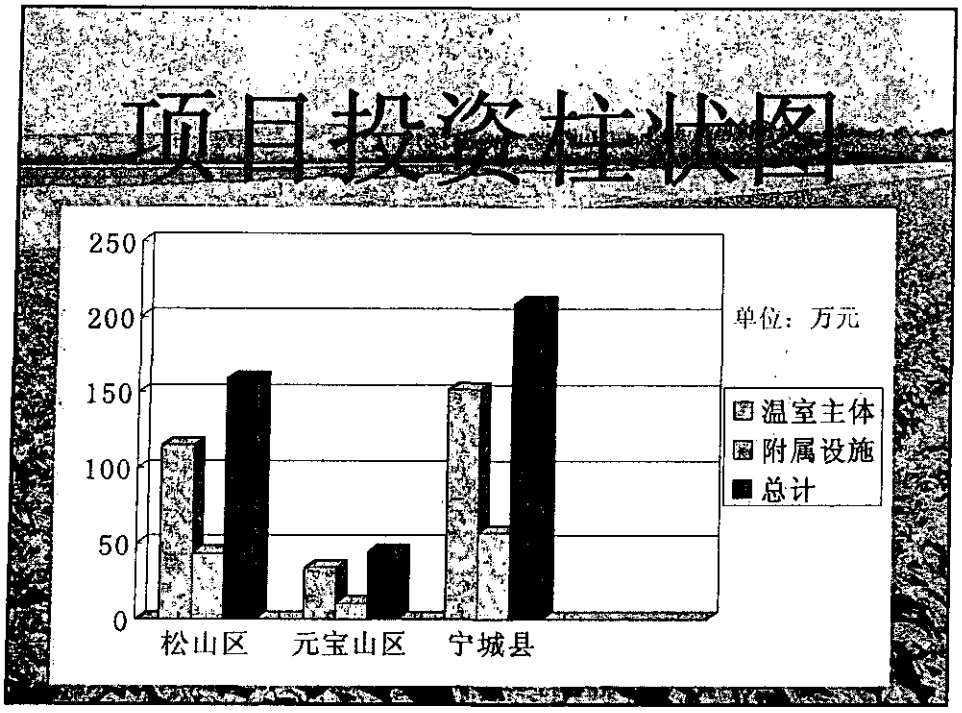

育苗盘36400盘


人工日1.1万个

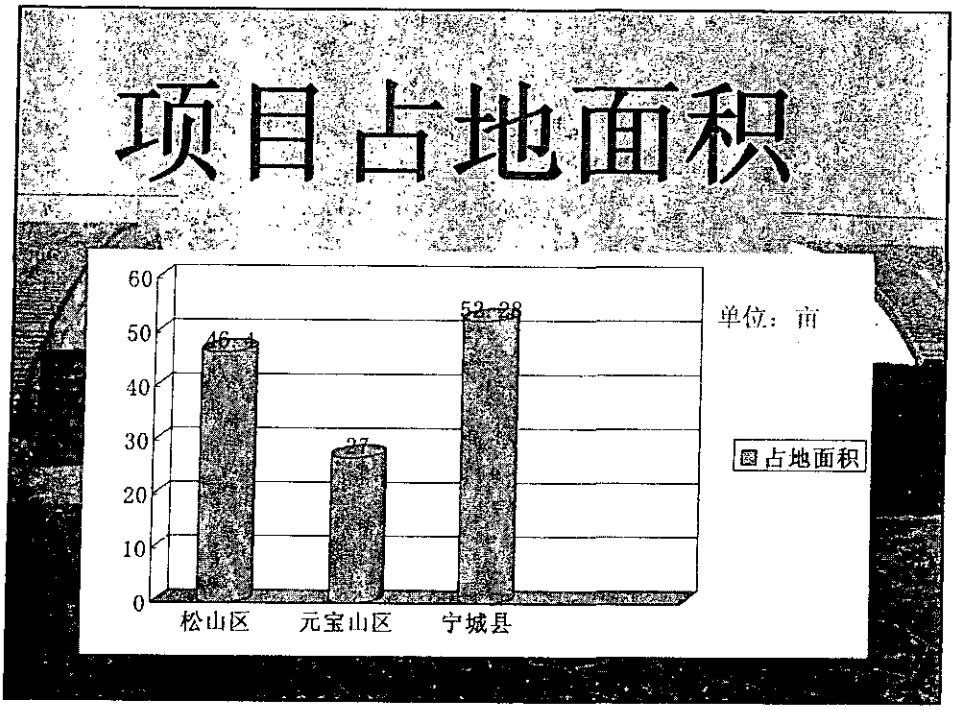
- 温室投资301.339万元
- 附属设施投资111.339万元




温室分布饼形图
单位：座
松山区
元宝山区
宁城县


项目投资柱状图
250
200
150
100
50
0
单位：万元
温室主体
附属设施
总计
松山区
元宝山区
宁城县

项目占地面积



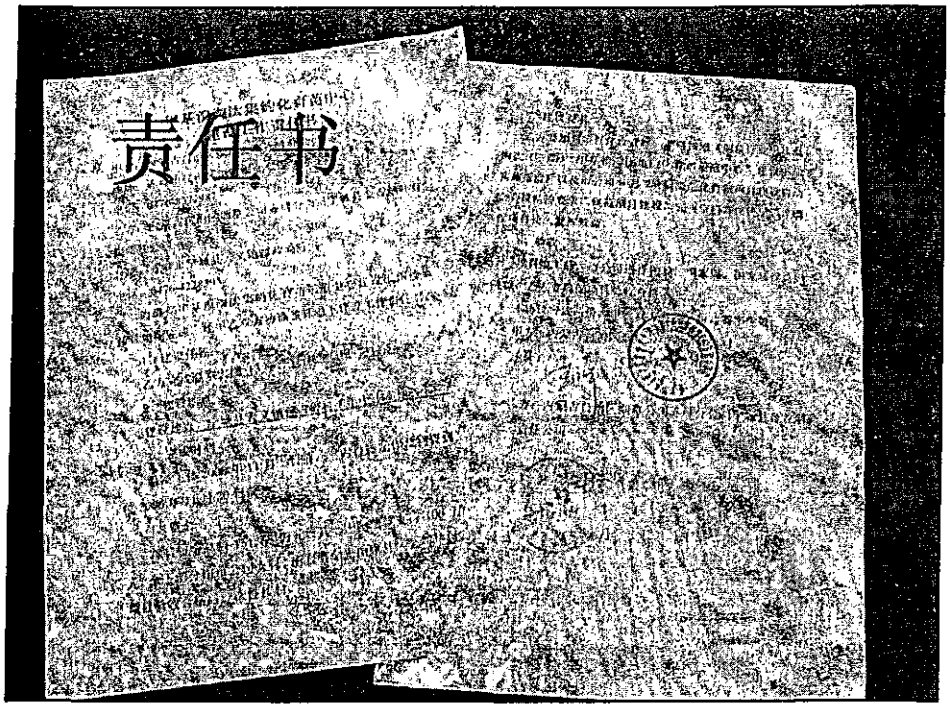
建设措施

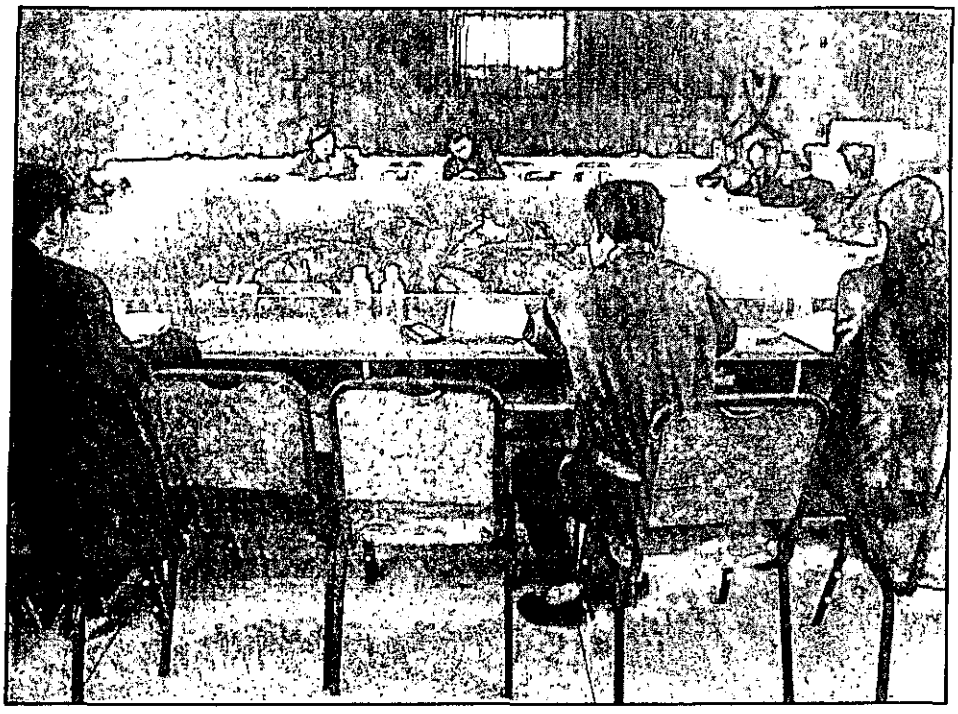

领导重视

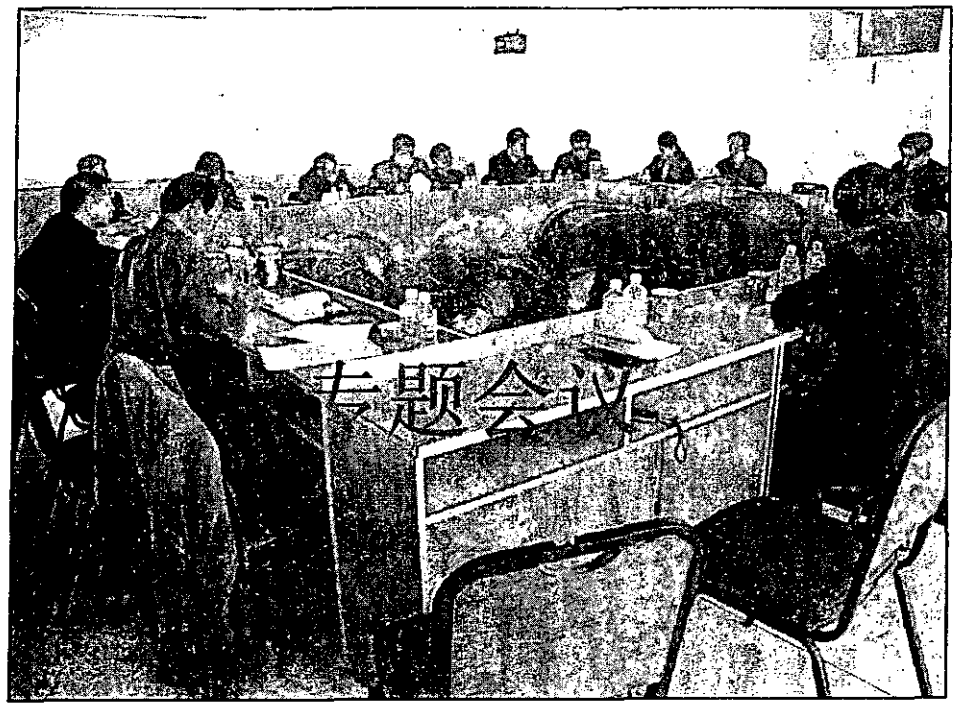

成立领导小组


领导小组深入实


实施细则

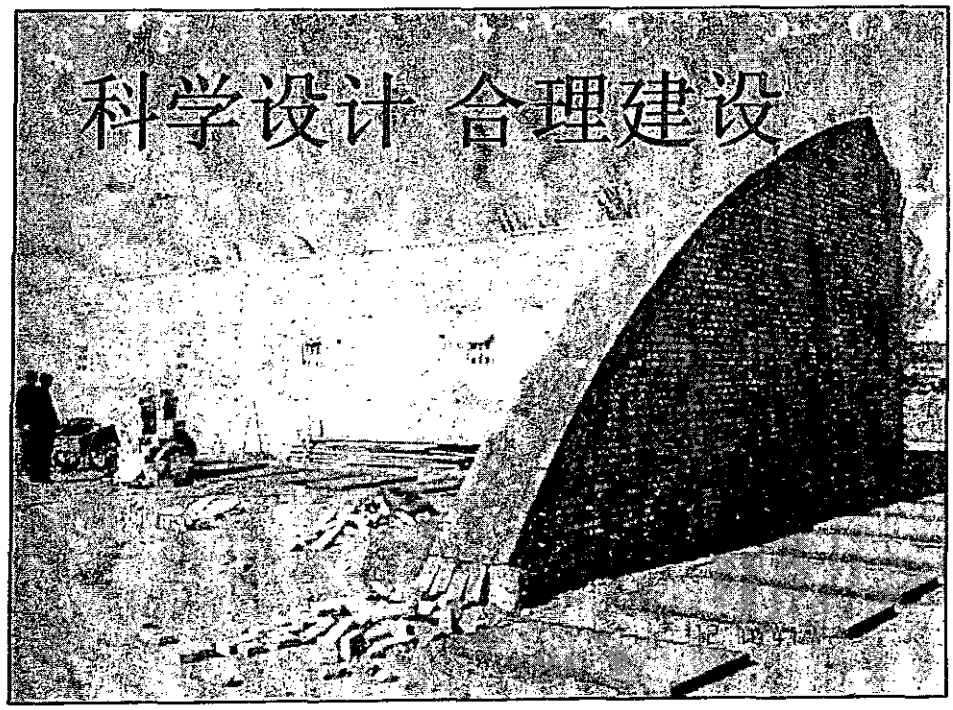

责任书

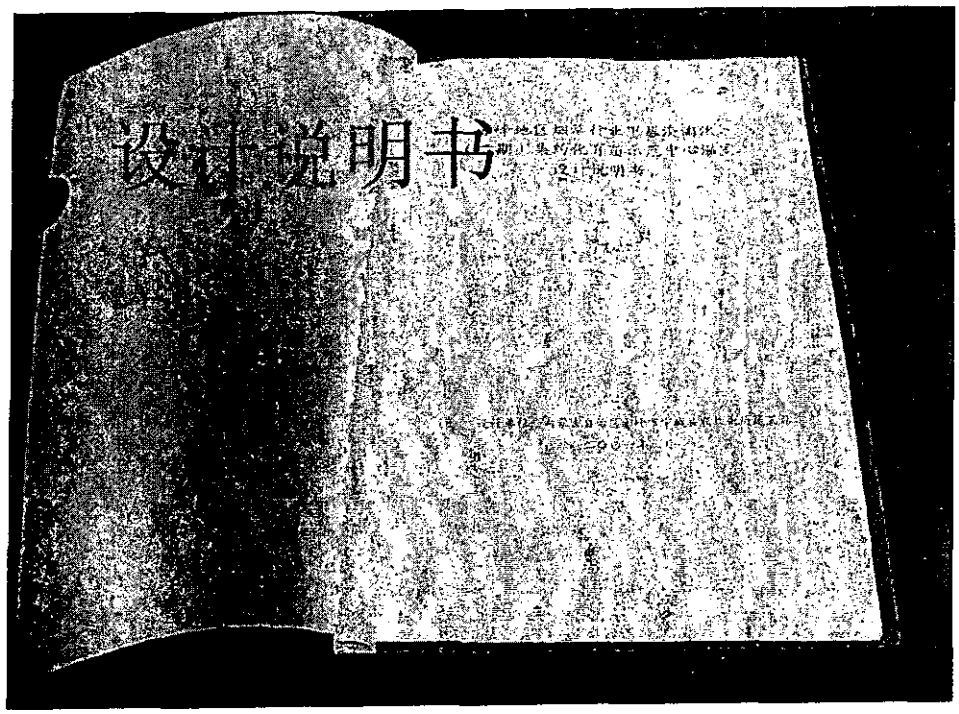


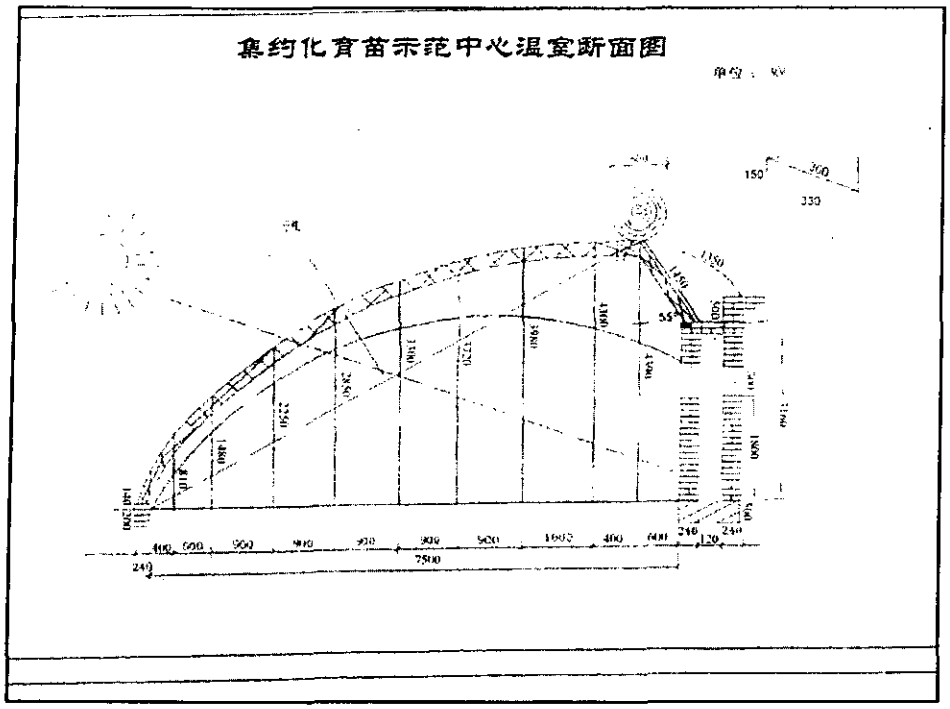

专题会议


实地检查

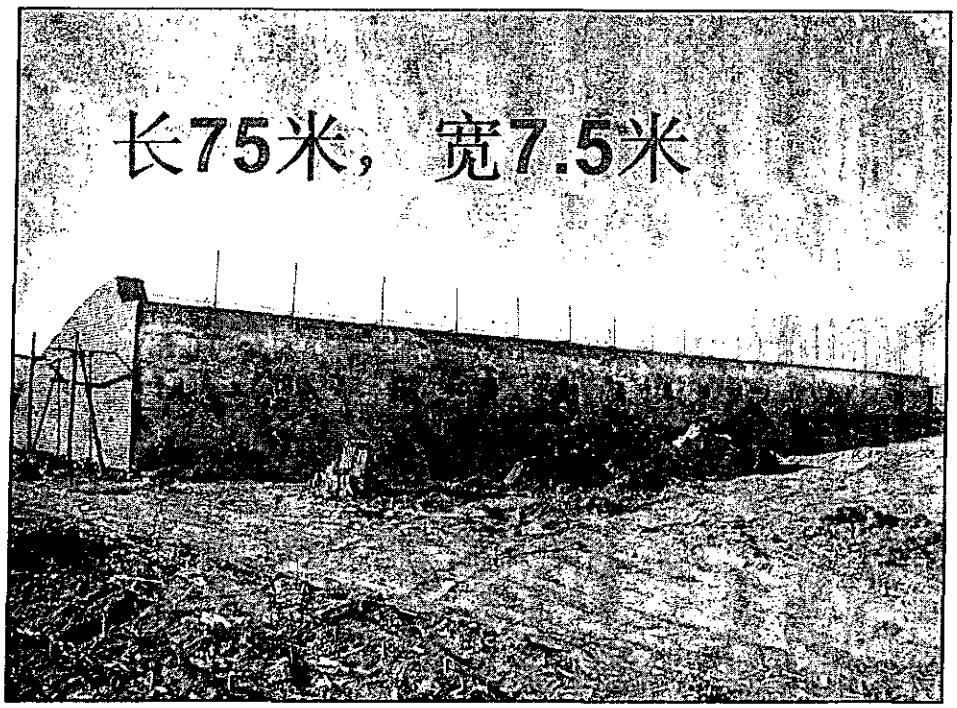

区市领导实地查看
7 3:04PM

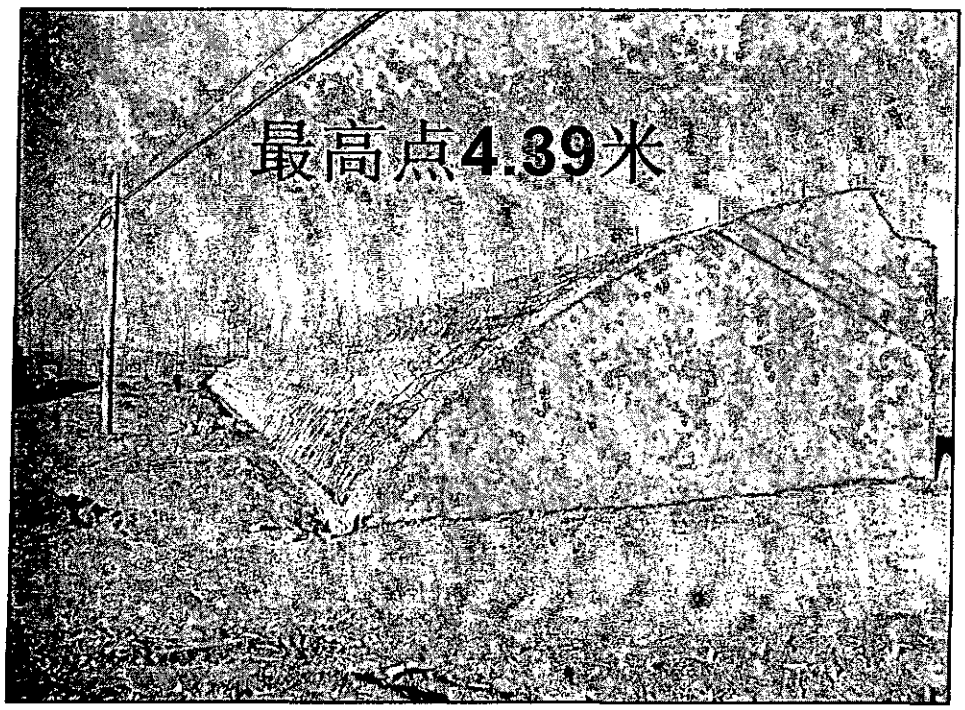

科学设计 合理建设

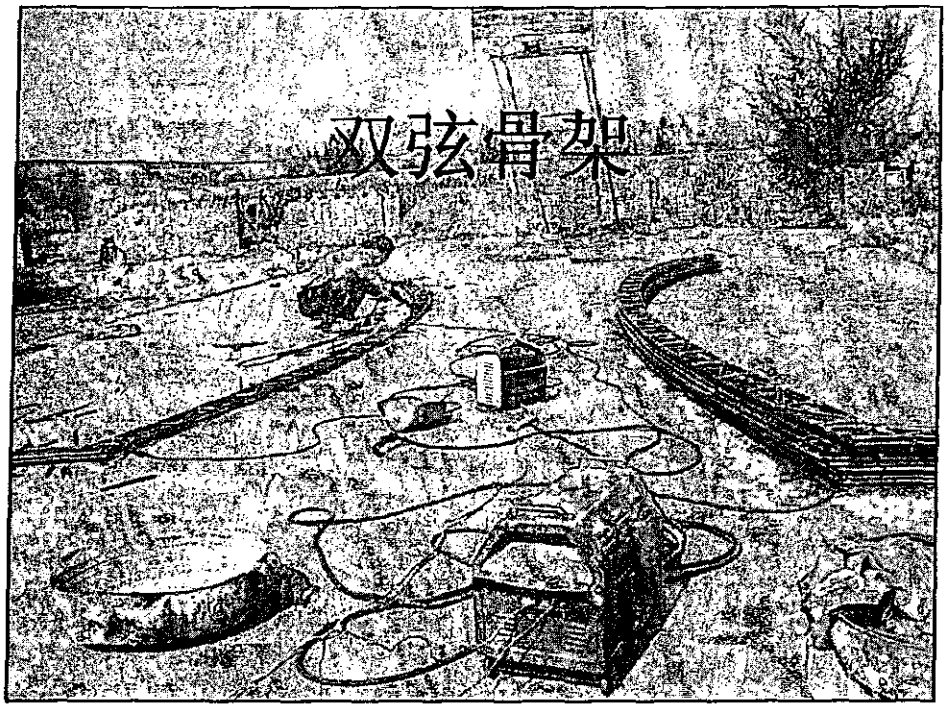

设计说明书

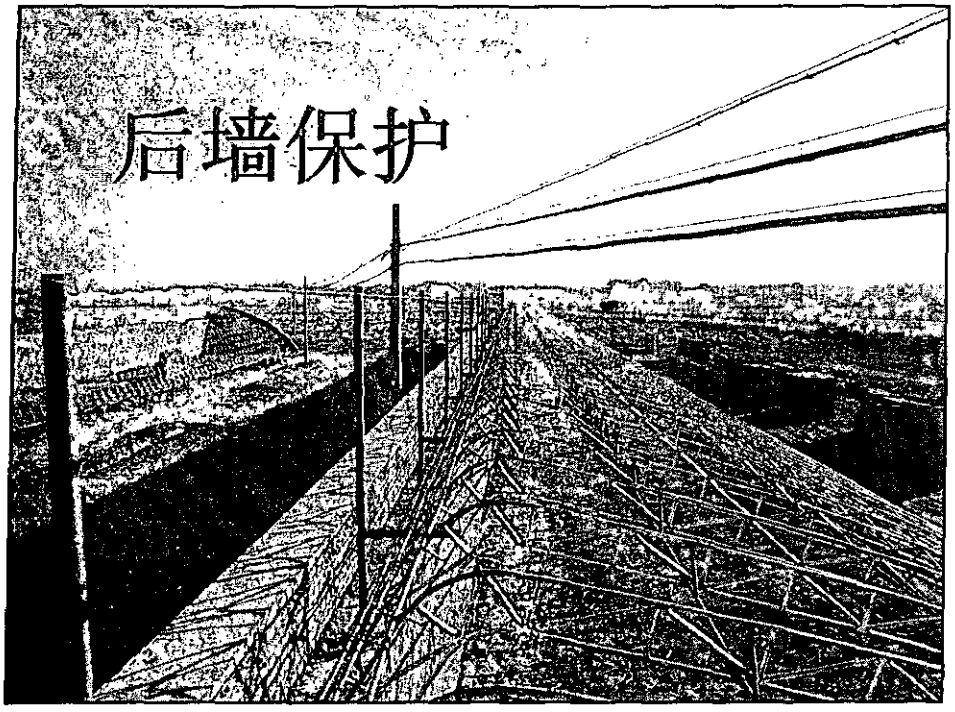

集约化育苗示范中心温室断面图


建设中的温室

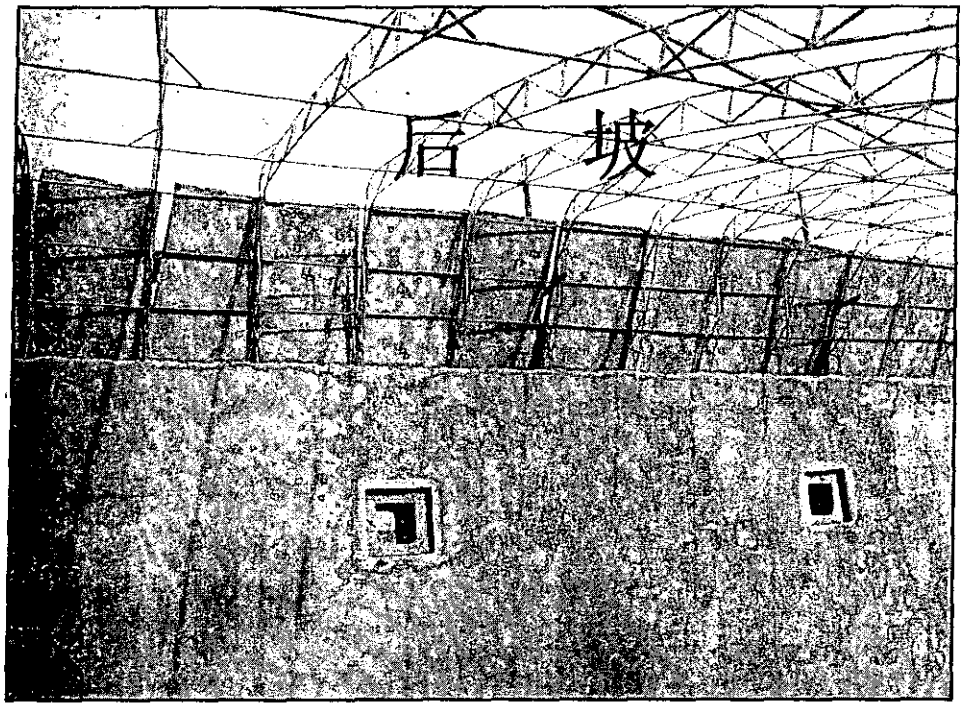

长75米，宽7.5米

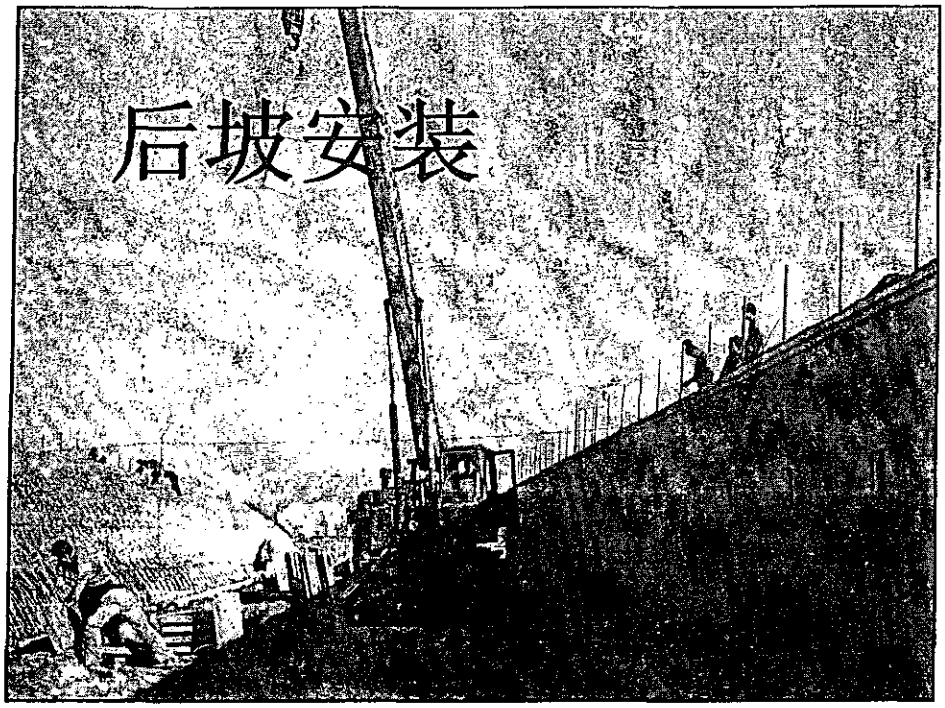

最高点4.39米

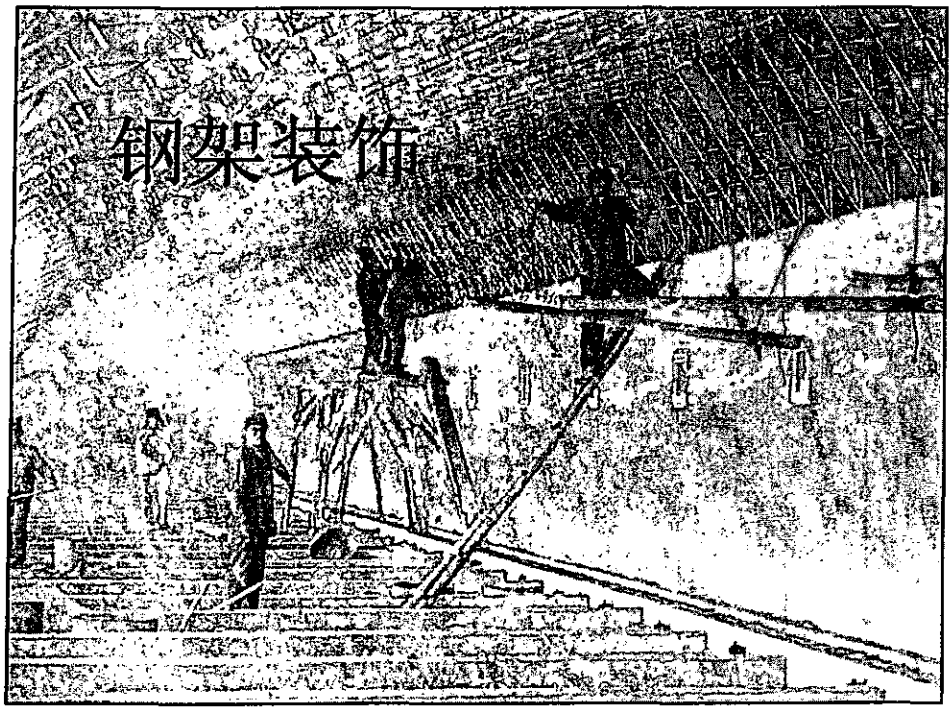

双弦骨架

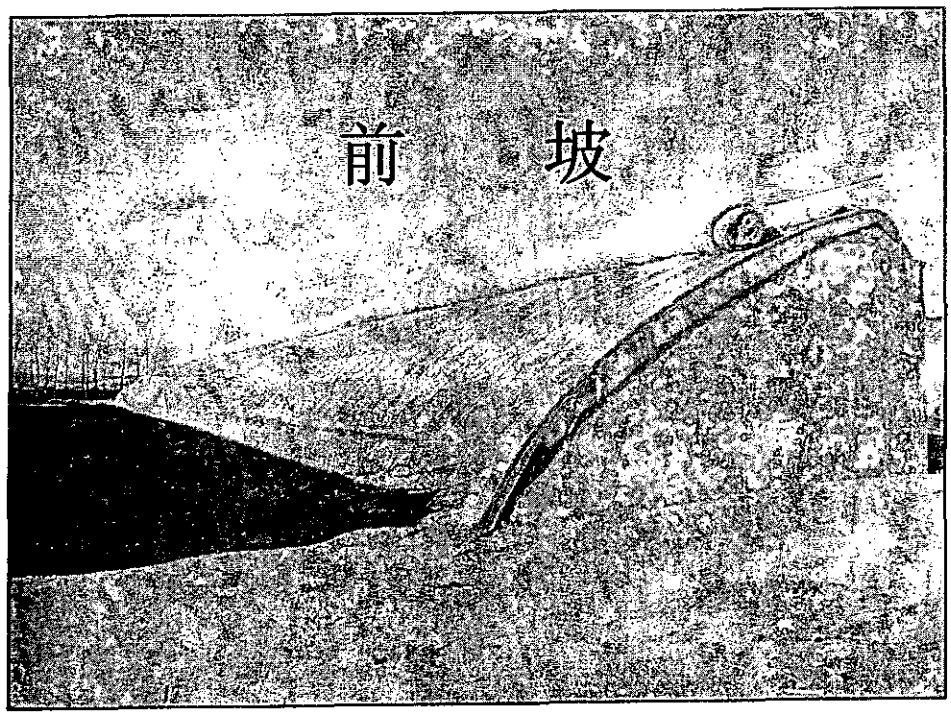

后墙保护


24中空砖墙

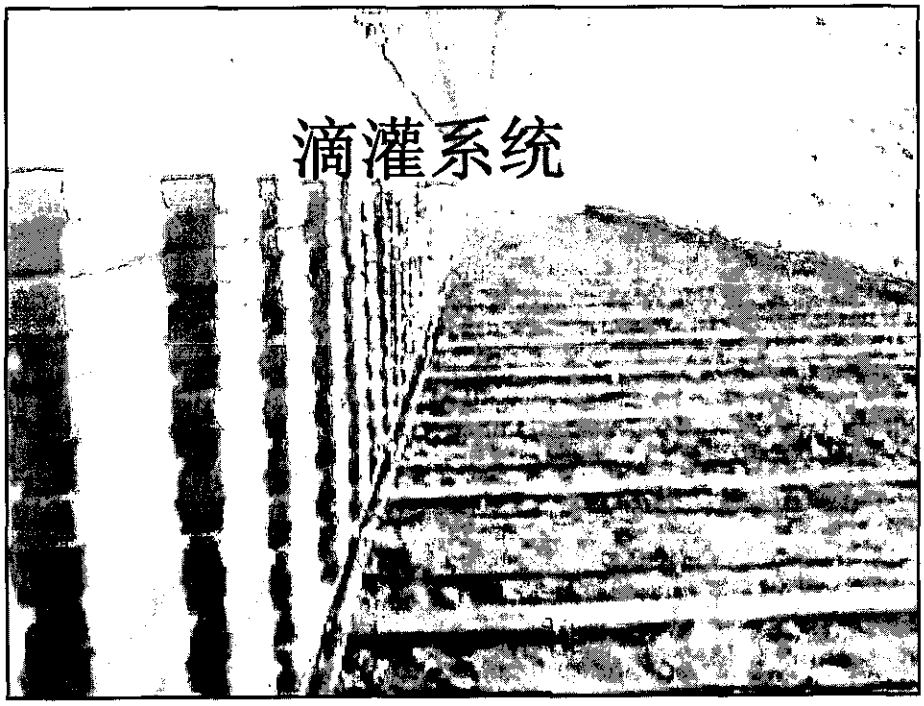

后 坡

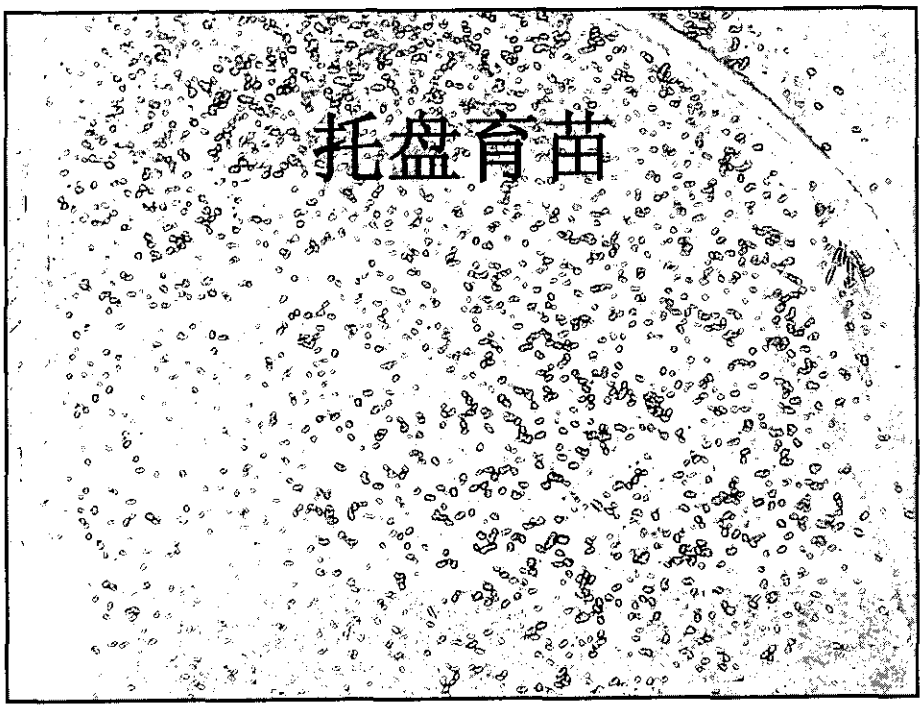

后坡安装

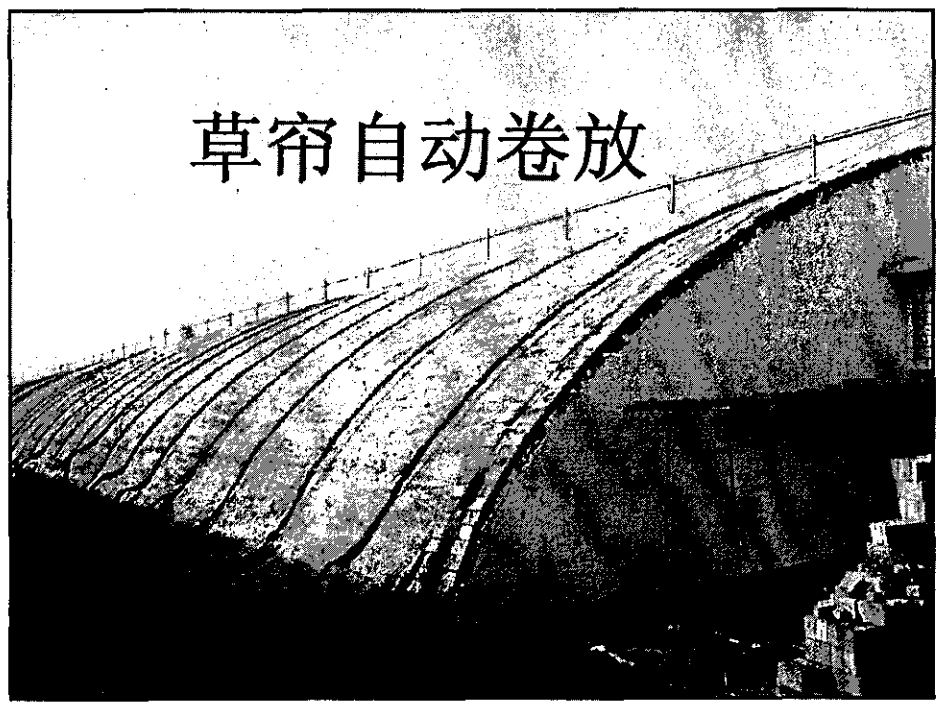

钢架装饰


前 坡

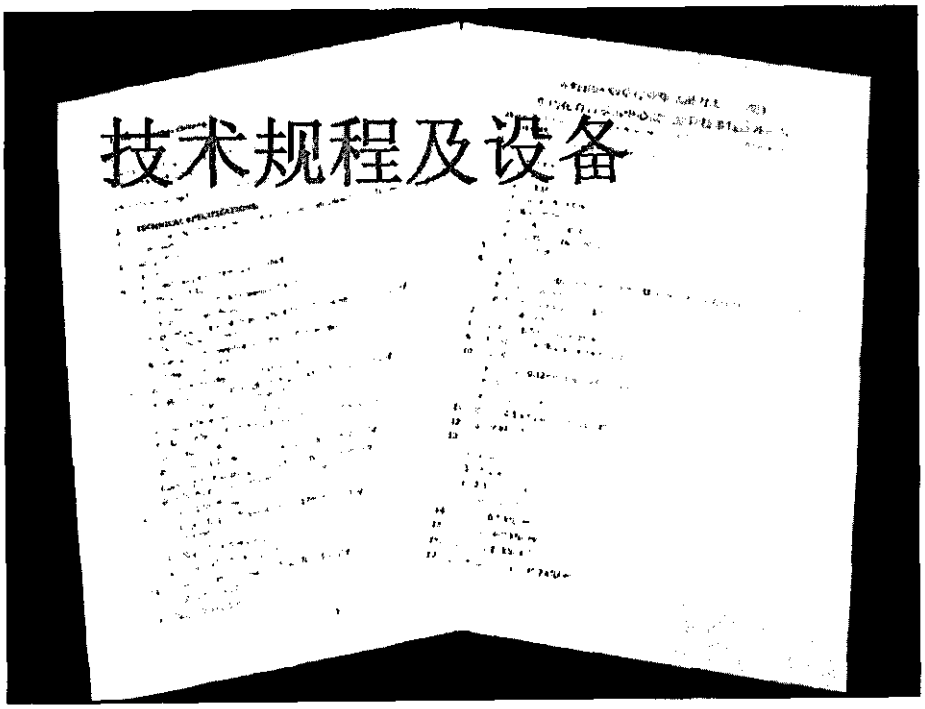

预热池

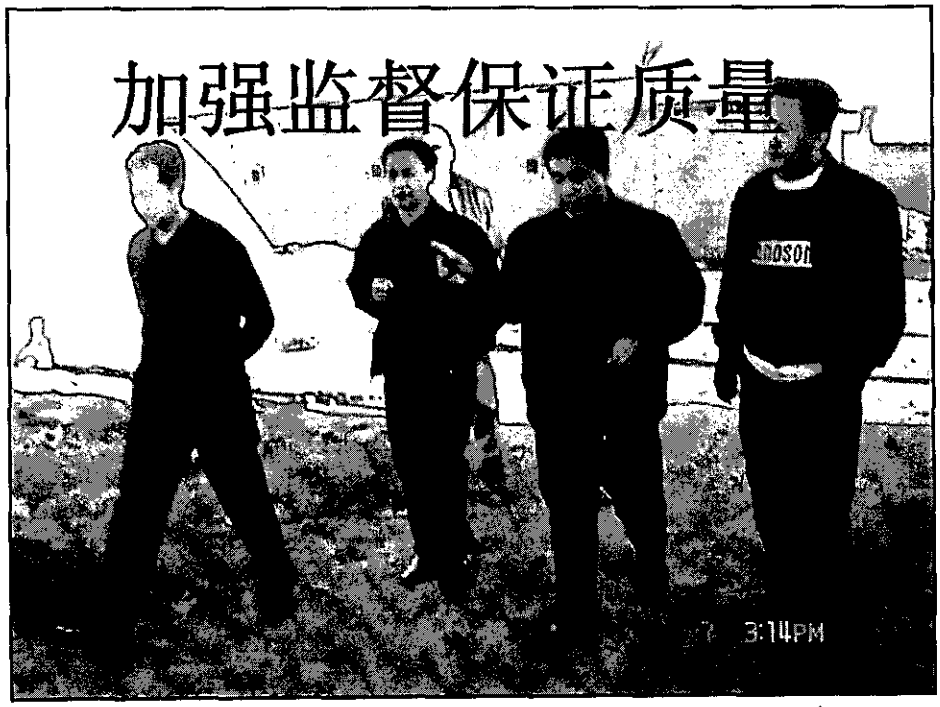

滴灌系统

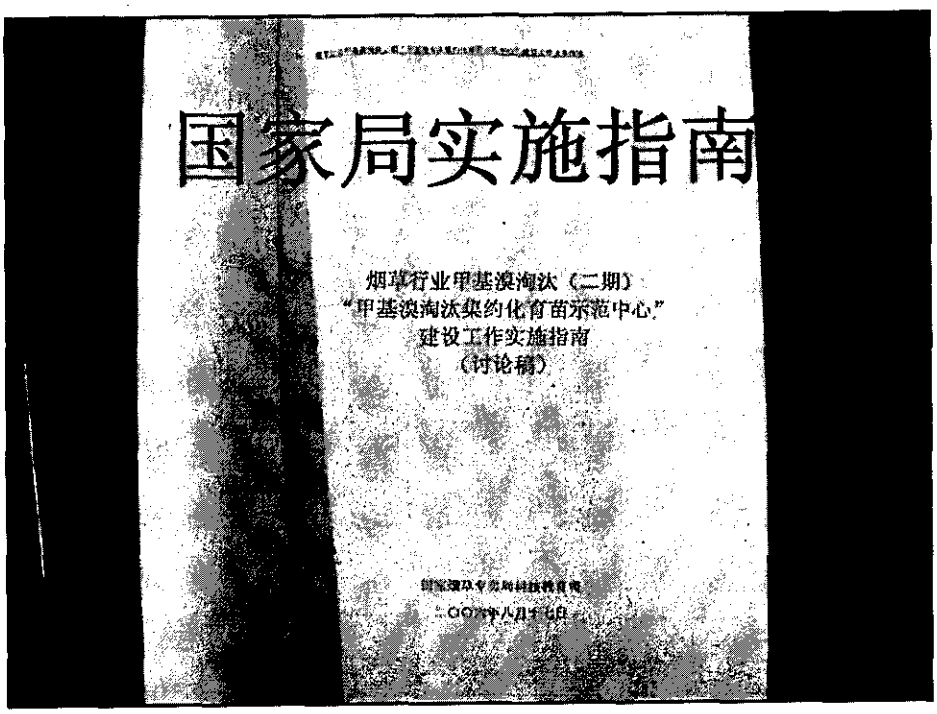

托盘育苗


草帘自动卷放

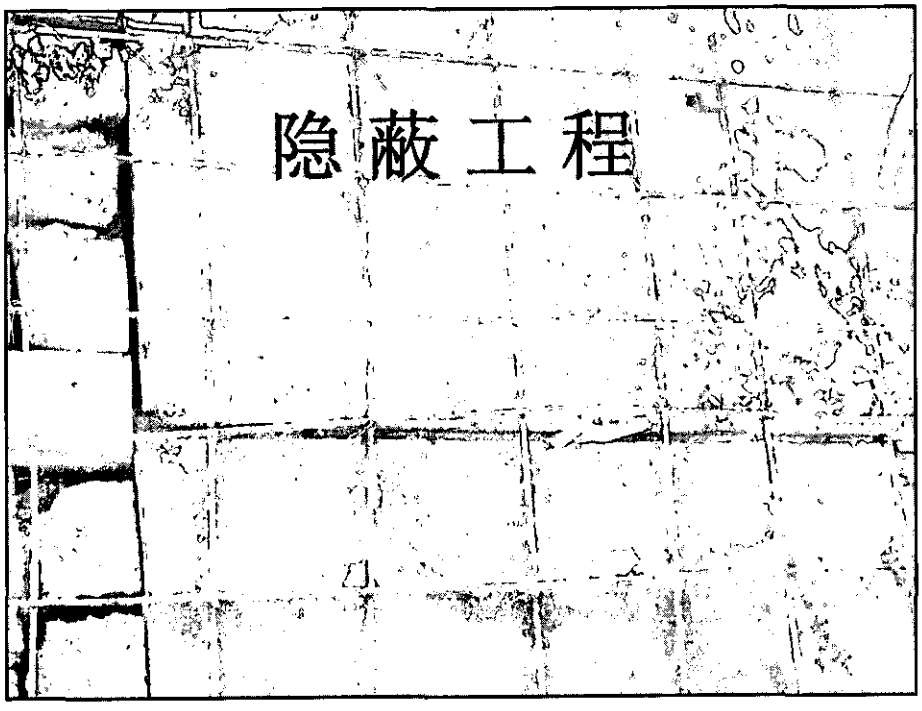

营养土消毒

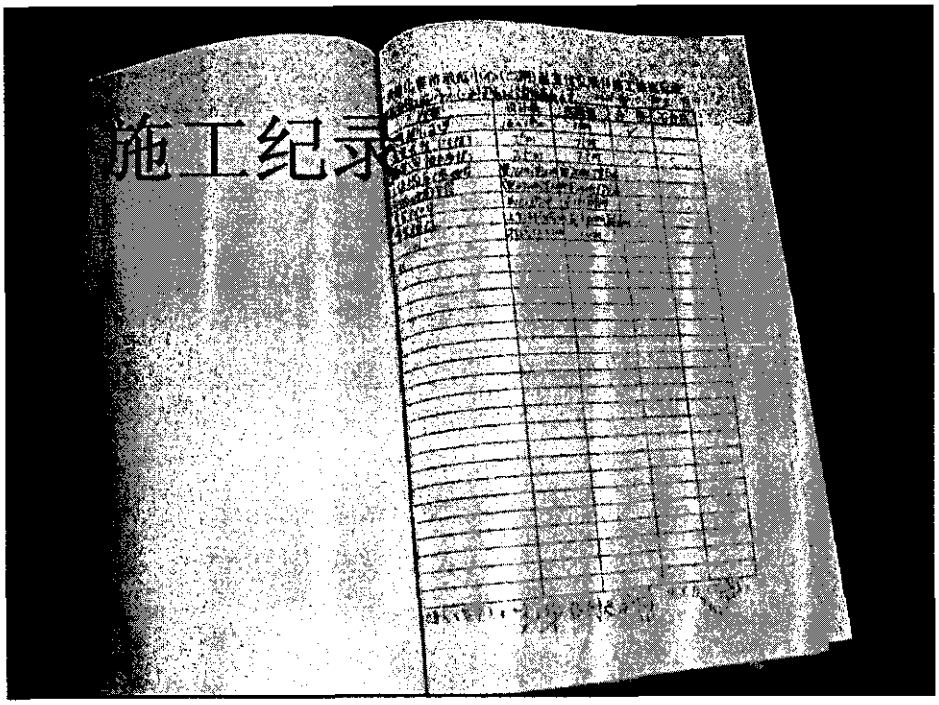

技术规程及设备

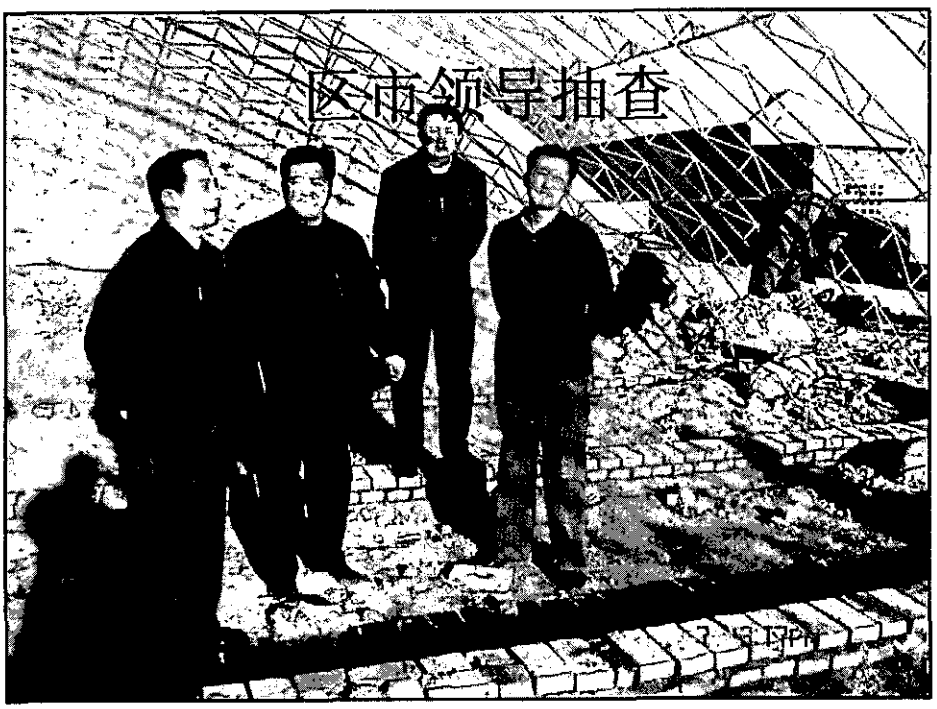

加强监督保证质量
3:14PM


国家局实施指南
烟草行业甲基溴淘汰（二期）
“甲基溴淘汰集约化育苗示范中心”
建设工作实施指南
（讨论稿）

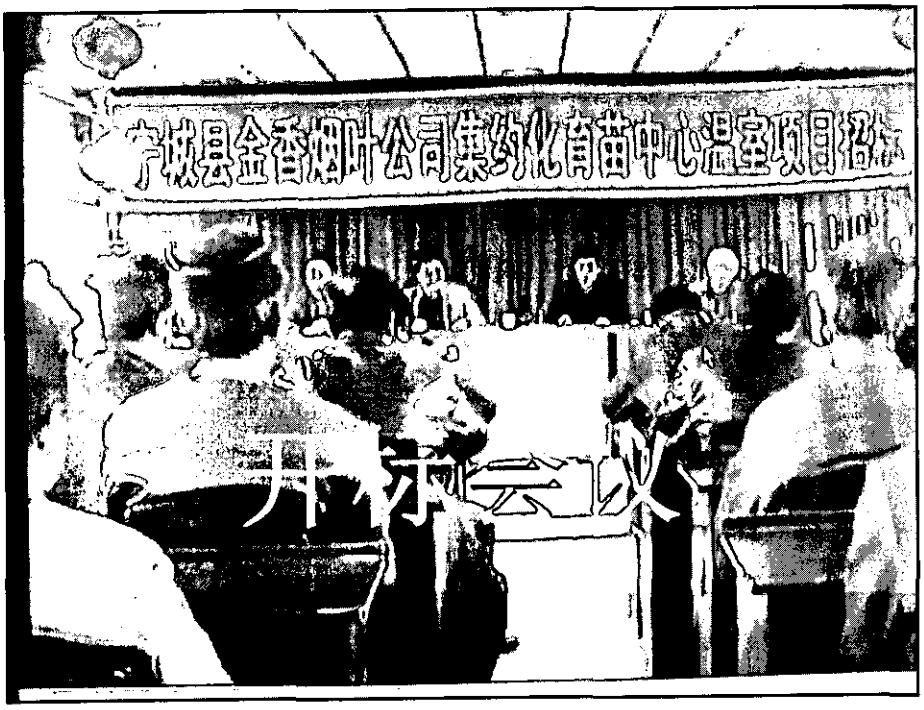

●项目负责人不定期检查
11 10:59AM


隐蔽工程

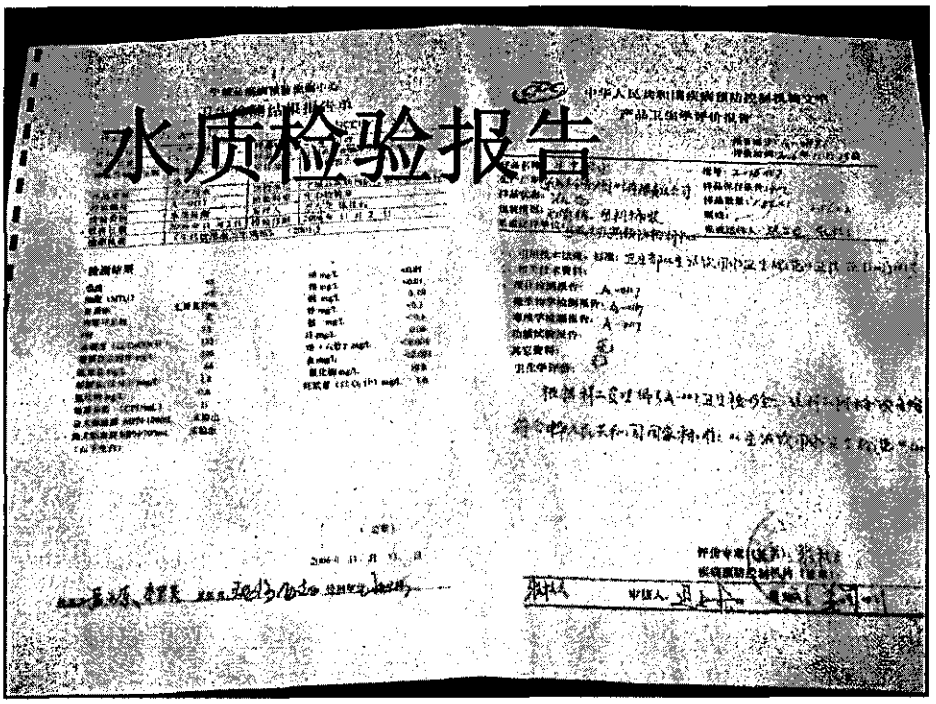

施工纪录

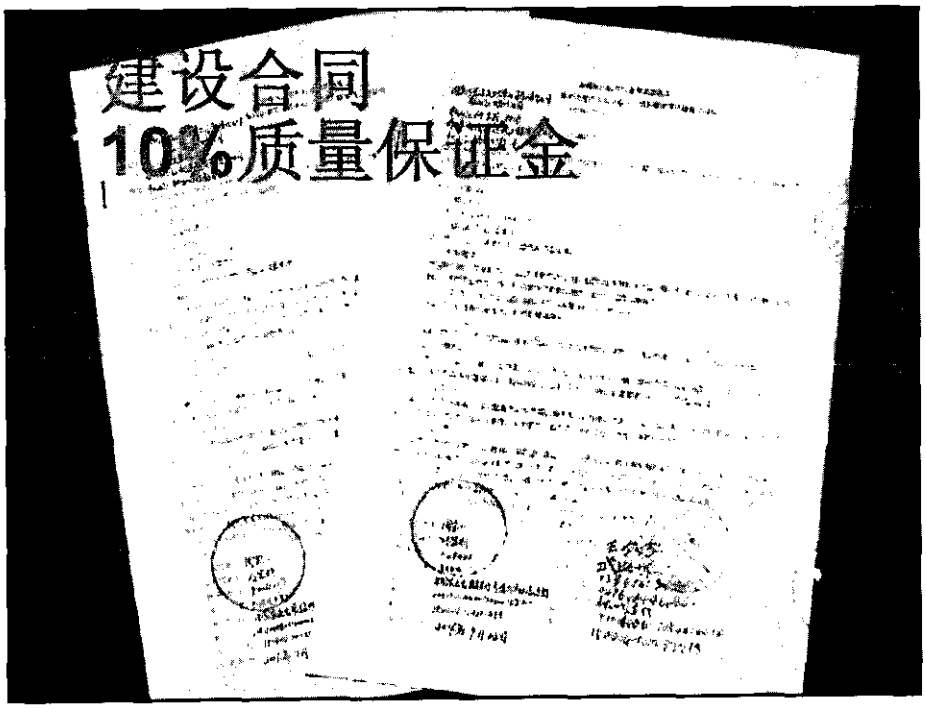

区市领导抽查

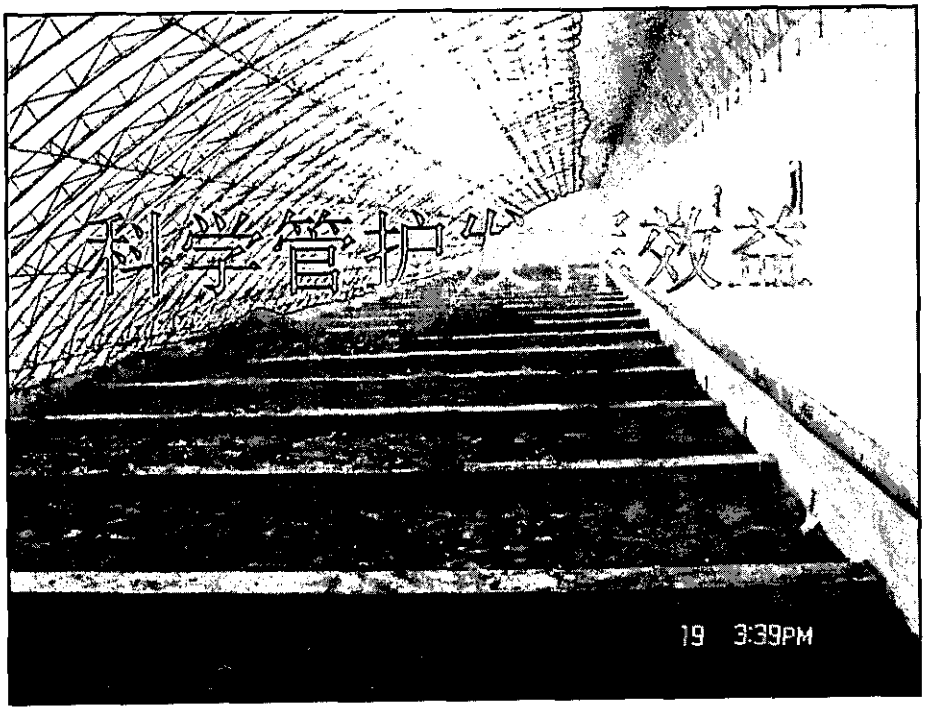

设计人员进行指导

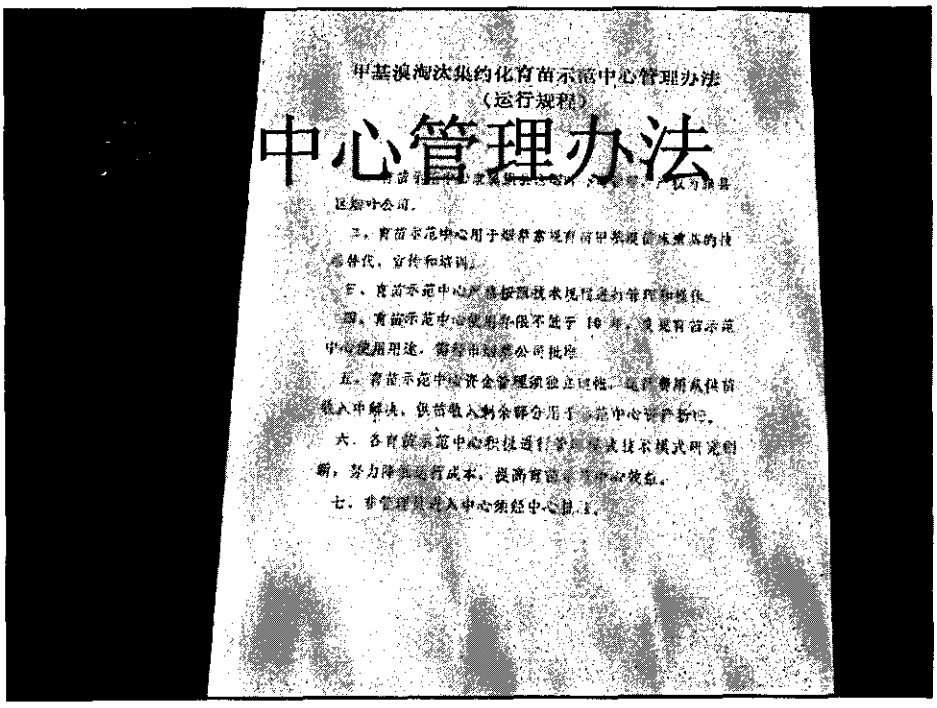

开标会议

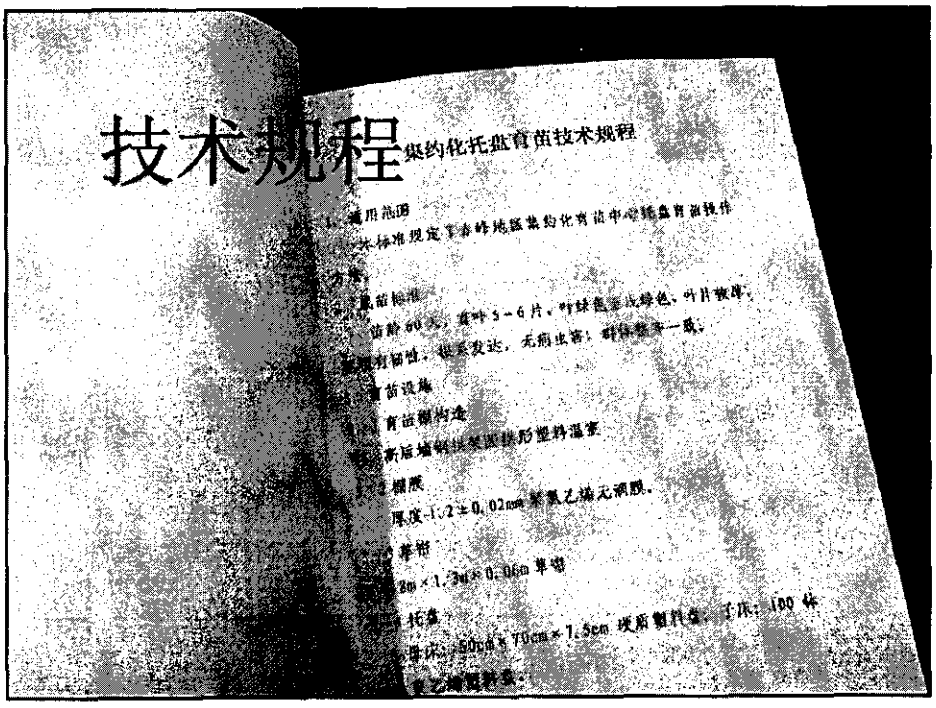

建筑材料质量检验报告


水质检验报告

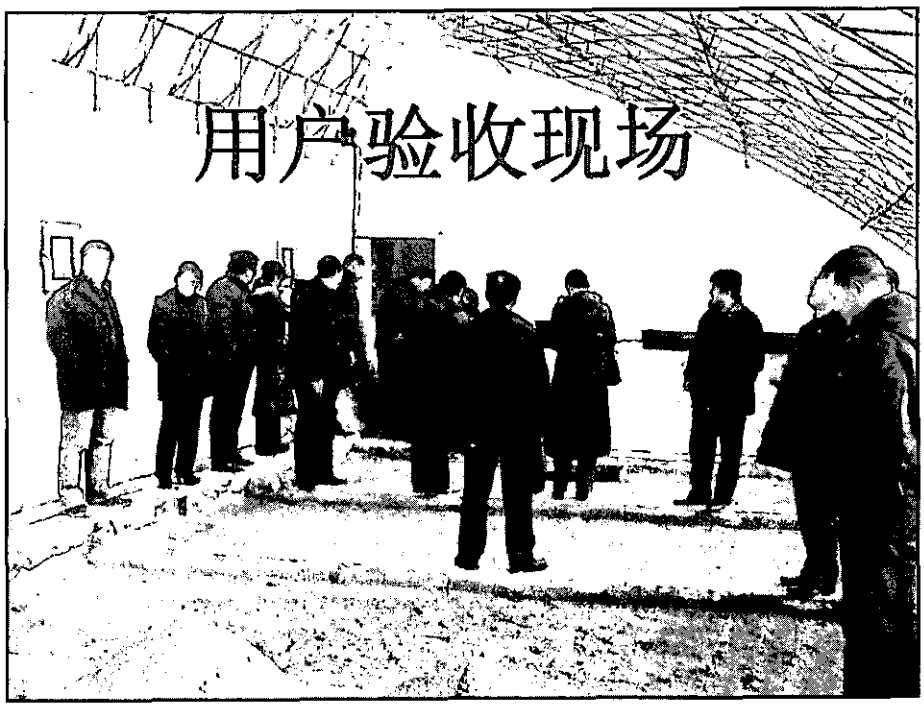

建设合同
10%质量保证金


19 3:39PM


甲基溴淘汰集约化育苗示范中心管理办法
（运行规程）
中心管理办法


技术规程
集约化托盘育苗技术规程

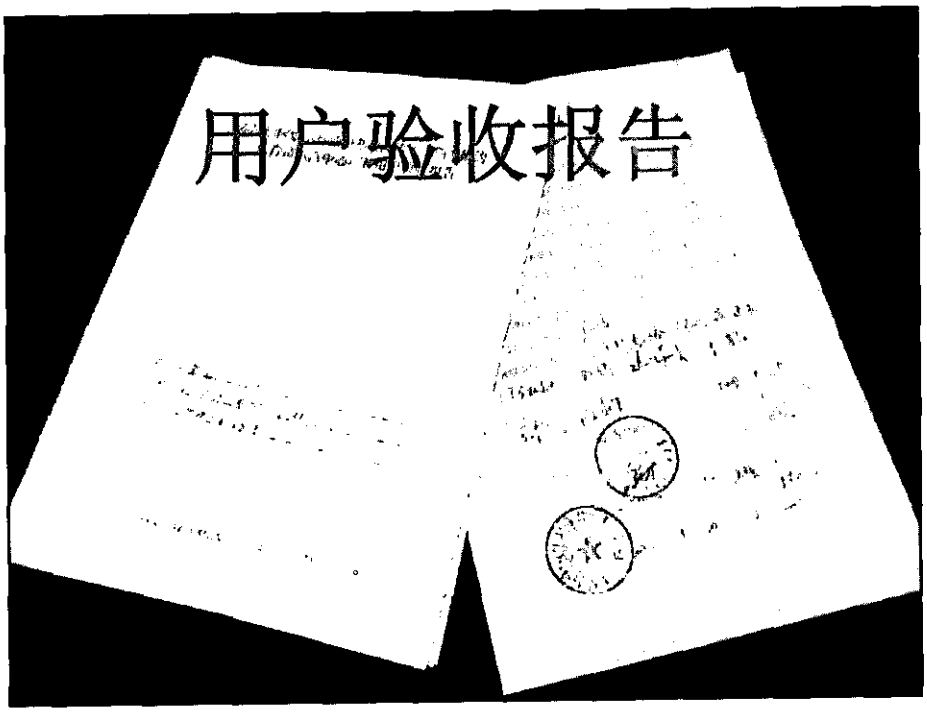

用户验收


用户验收现场


纪检部门监督项目建设
7 10:13AM


检查通风窗
0:12AM

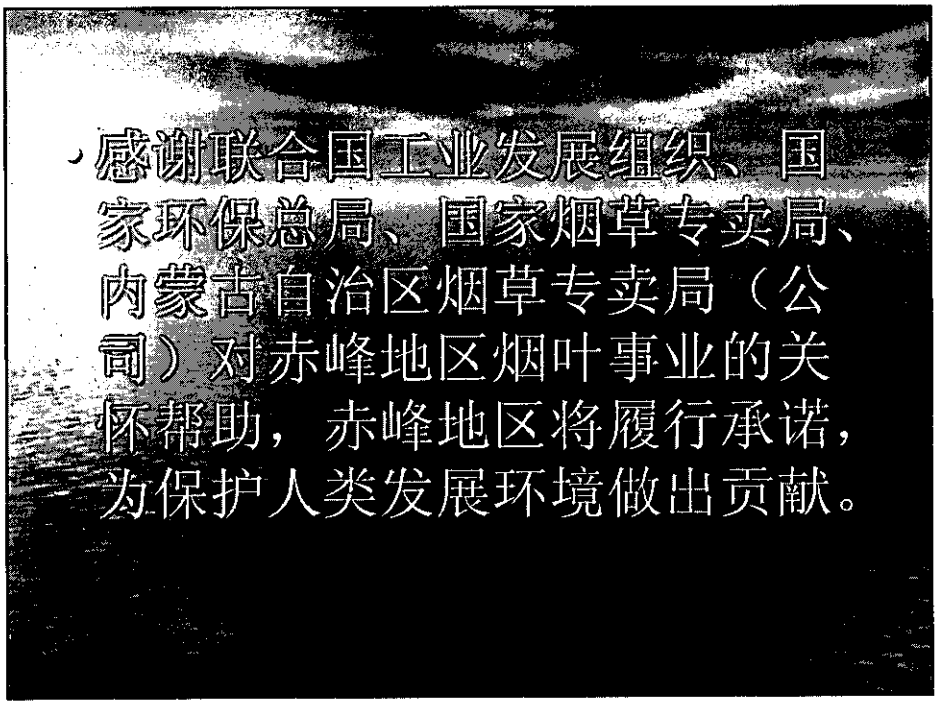

验收会议


用户验收报告


峰市烟草公司
7 10:25AM

- 2007年集约化培育母苗面积100%
- 斯美地使用面积84.6%

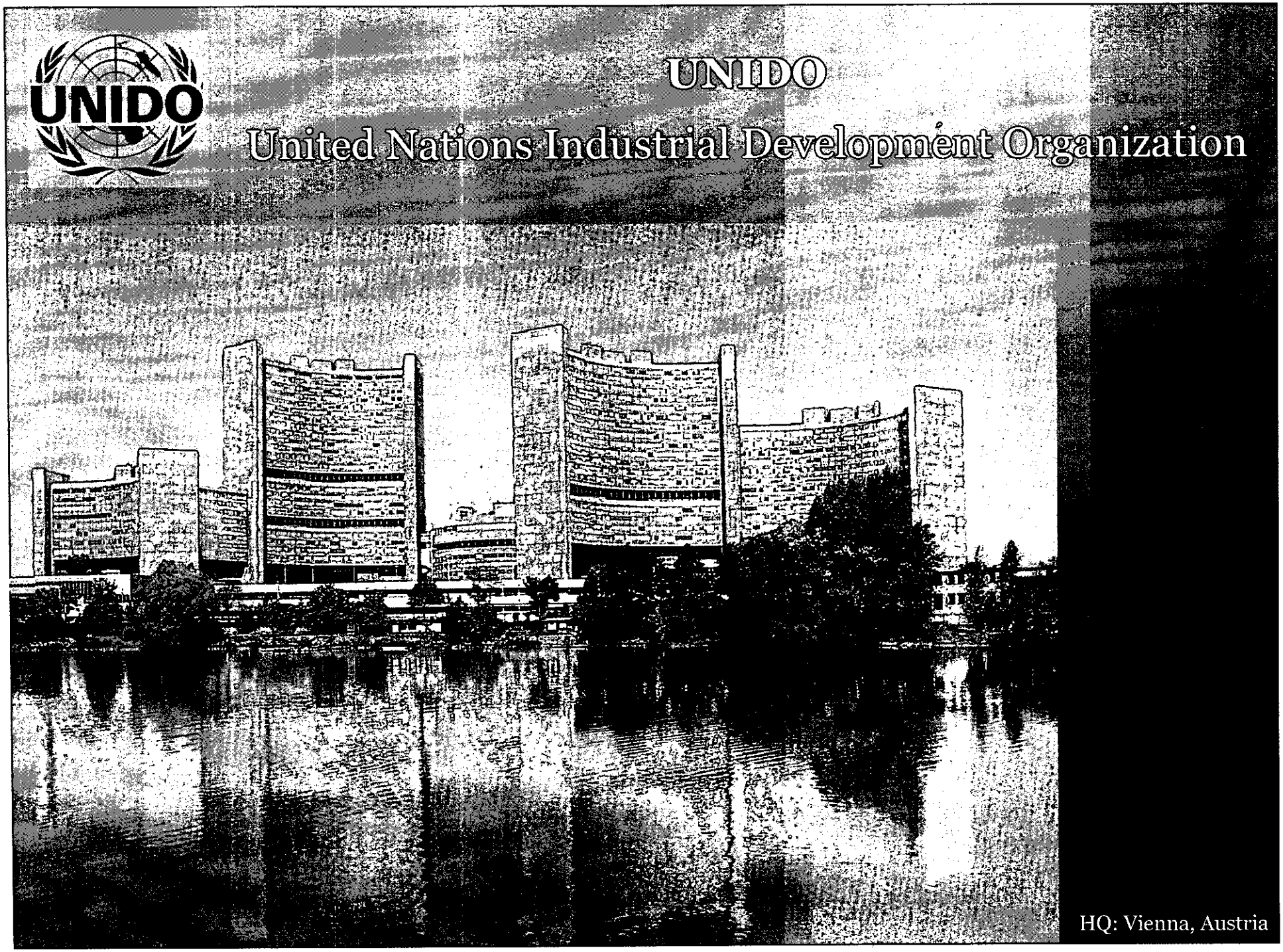
- 2008年集约化培育母苗面积100%
- 斯美地使用面积100%


感谢联合国工业发展组织、国家环保总局、国家烟草专卖局、内蒙古自治区烟草专卖局（公司）对赤峰地区烟叶事业的关怀帮助，赤峰地区将履行承诺，为保护人类发展环境做出贡献。

Annex IV

UNIDO

United Nations Industrial Development Organization



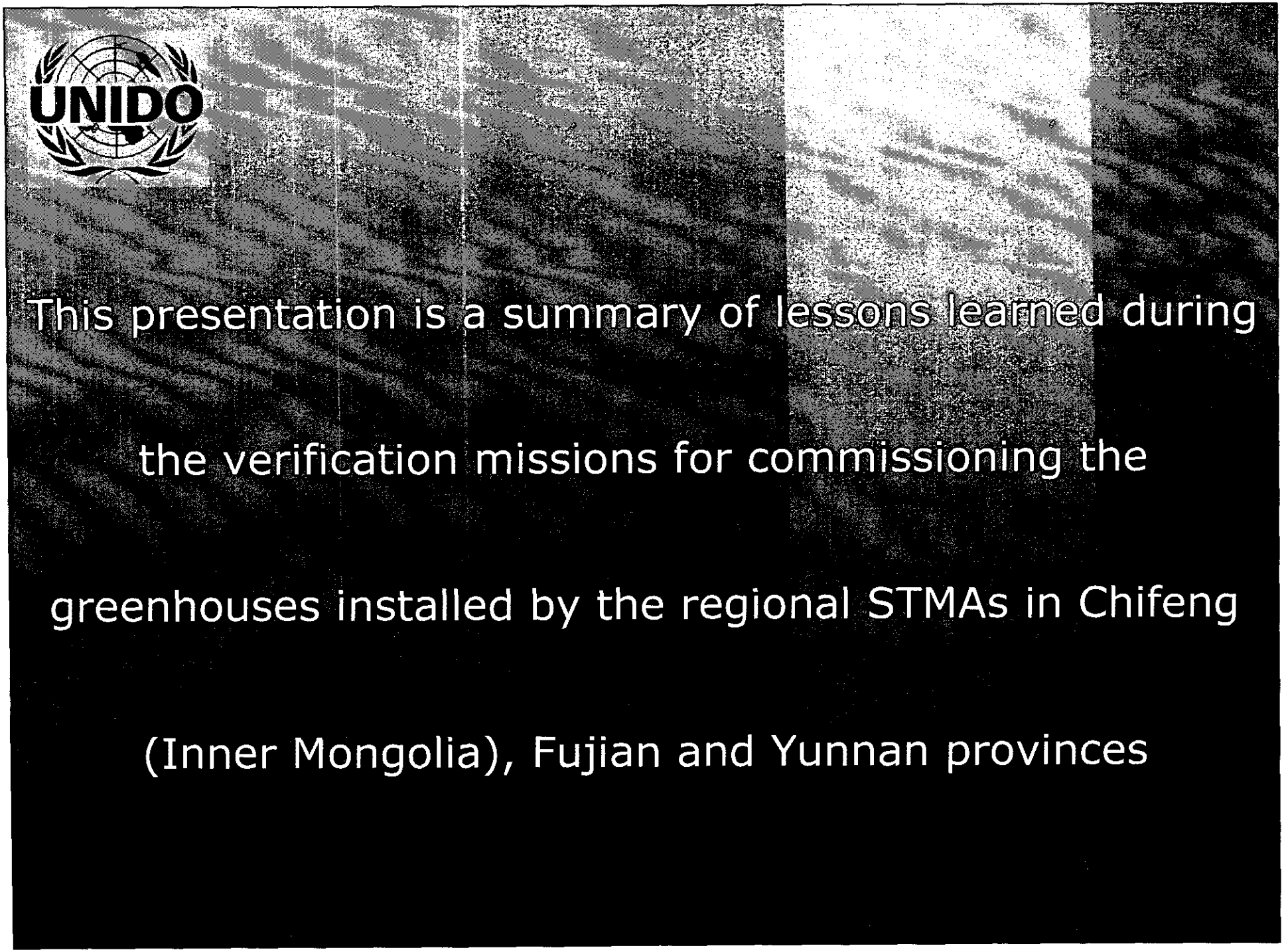
HQ: Vienna, Austria

Greenhouse technology for seedlings production

Mr. Alessandro AMADIO
Industrial Development Officer

UNIDO Regional Office – Beijing, China

Phone: +86 10 6532 3440 ext. 220
Fax: +86 10 6532 6315
e-mail: a.amadio@unido.org


UNIDO
This presentation is a summary of lessons learned during
the verification missions for commissioning the
greenhouses installed by the regional STMAs in Chifeng
(Inner Mongolia), Fujian and Yunnan provinces

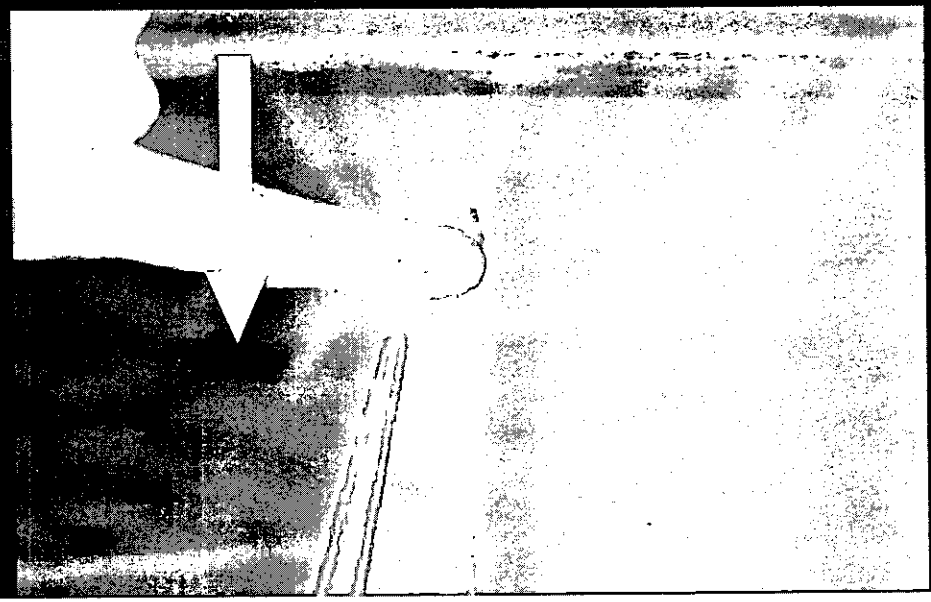
Summary

1. Nursery Location
2. Greenhouse Orientation
3. Greenhouse Types
4. Light radiation and transmission
5. Metal structure
6. Thermal Screens
7. Civil works and installation
8. Space management and efficiency
9. Greenhouse volume
10. ... Others: cooling and ventilation systems, overhead irrigation and suspended tray system.

Nursery Location

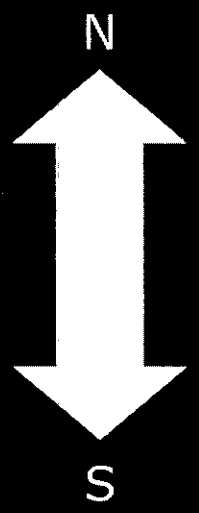
The selection of the proper location is the precondition for the success of the nursery in terms of seedling quality and cost. It has to look into the following parameters:

1. A favorable micro climatic condition characterized by: constant ventilation, high sun radiation and low relative humidity.
2. Free from potential sources of pathogens (insect, virus and fungi), as flower and horticulture crops plantations.
3. Water availability, in terms of quality, quantity.
4. Clean environment, free from pollutants such as smoke, ash, dust, etc.



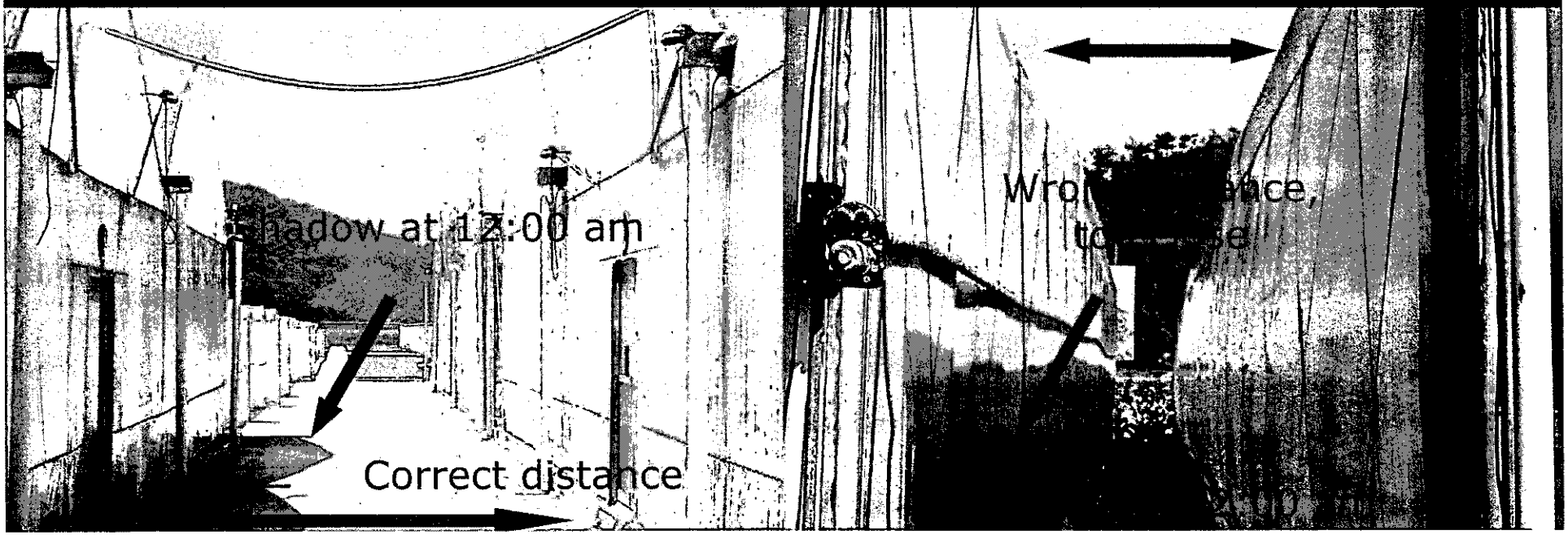
Greenhouse Orientation

North - South

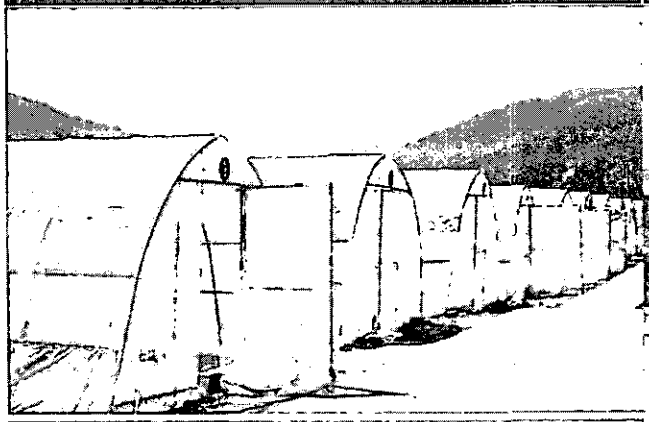
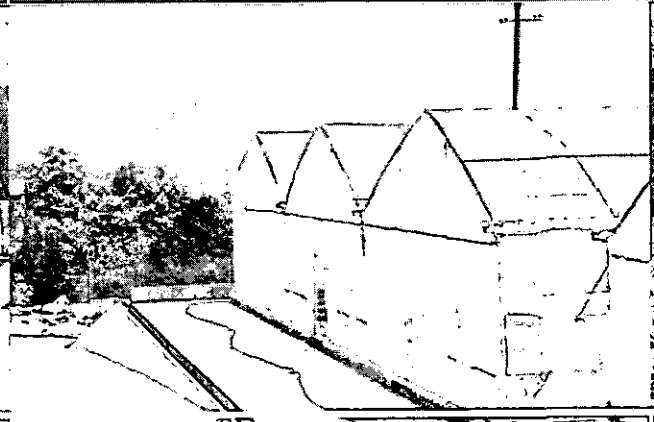
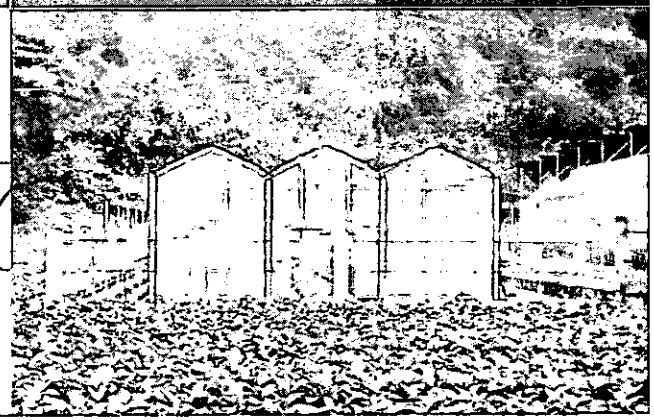


Correct North – South oriented

Wrong East – West oriented



Greenhouses Types

Low tunnel	High tunnel	Venlo
		
Cost: 27 RMB/m^2 (1/5)	Cost: 130 RMB/m^2 (1)	Cost: 1,040 RMB/m^2 (x8)
Polyethylene film	Polyethylene film	Polycarbonate panels
Removable structure	Fix structure	Fix structure
Low volume and poor climatic control	High volume and good climatic control	High volume and good climatic control
High light radiation	High light radiation	Low light radiation
Suitable for Short crop season	Suitable for Long crop season	Suitable for Long crop season
Poor ventilation	Good ventilation	Good ventilation
Low resistance wind	High resistance wind	High resistance wind and snow load

Light radiation and Light transmission

Light radiation is given by the local climatic condition.
Light transmission is given by the construction material.

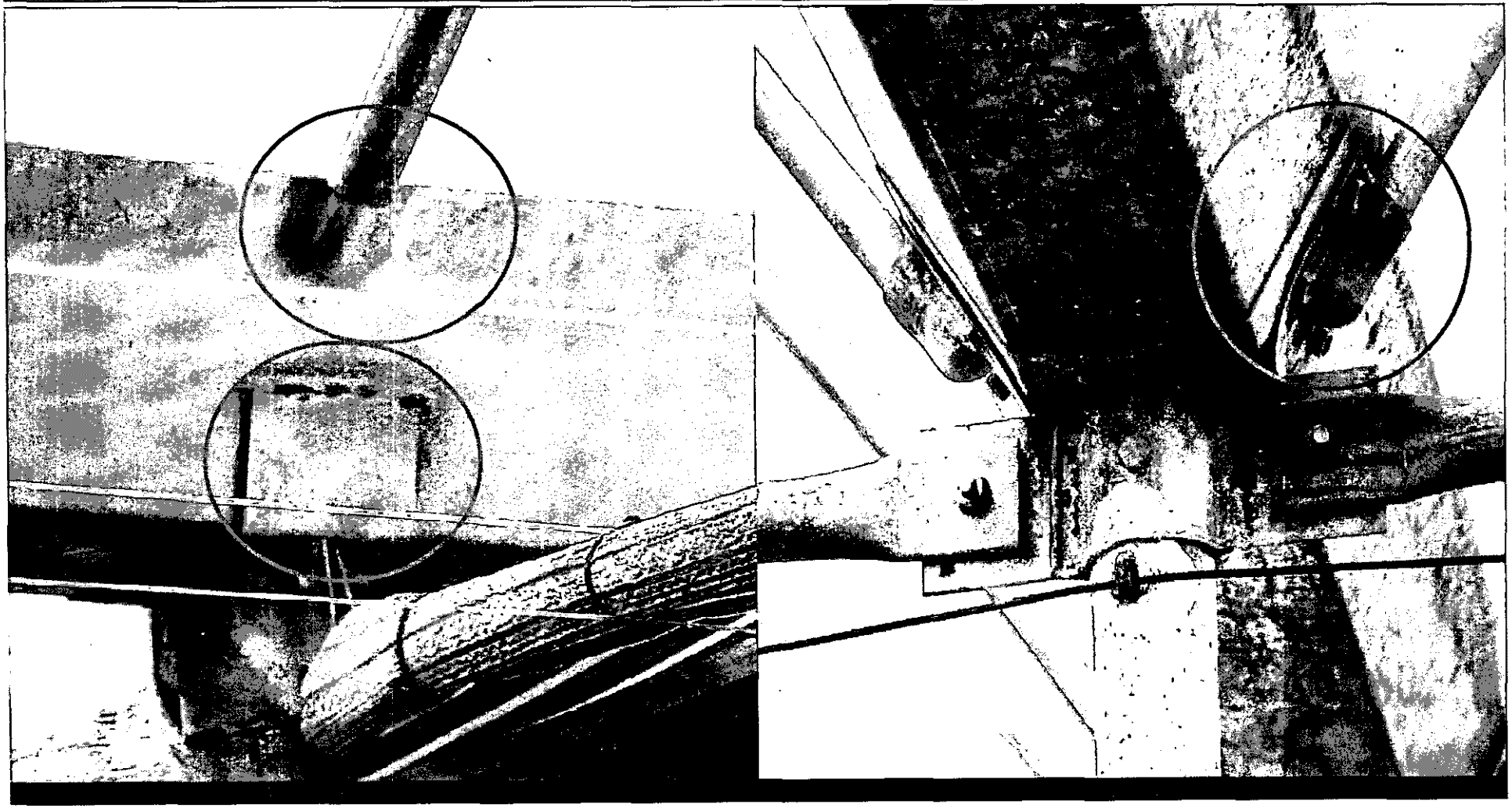
1. Light and Temperature are the two key production parameters, their control ensure the production of strong and healthy seedlings.
2. Low light radiation results on excessive internodes elongation, soft tissues, susceptibility to fungal disease, plants lost after transplanting.

Venlo – polycarbonate panels Low light transmission	High tunnel – polyethylene film High light transmission

Metal structure - Welding / bolds

1. Welding is not allowed for greenhouses installation, only bolds.
2. Temperature stress and wind quickly brake apart welded parts.

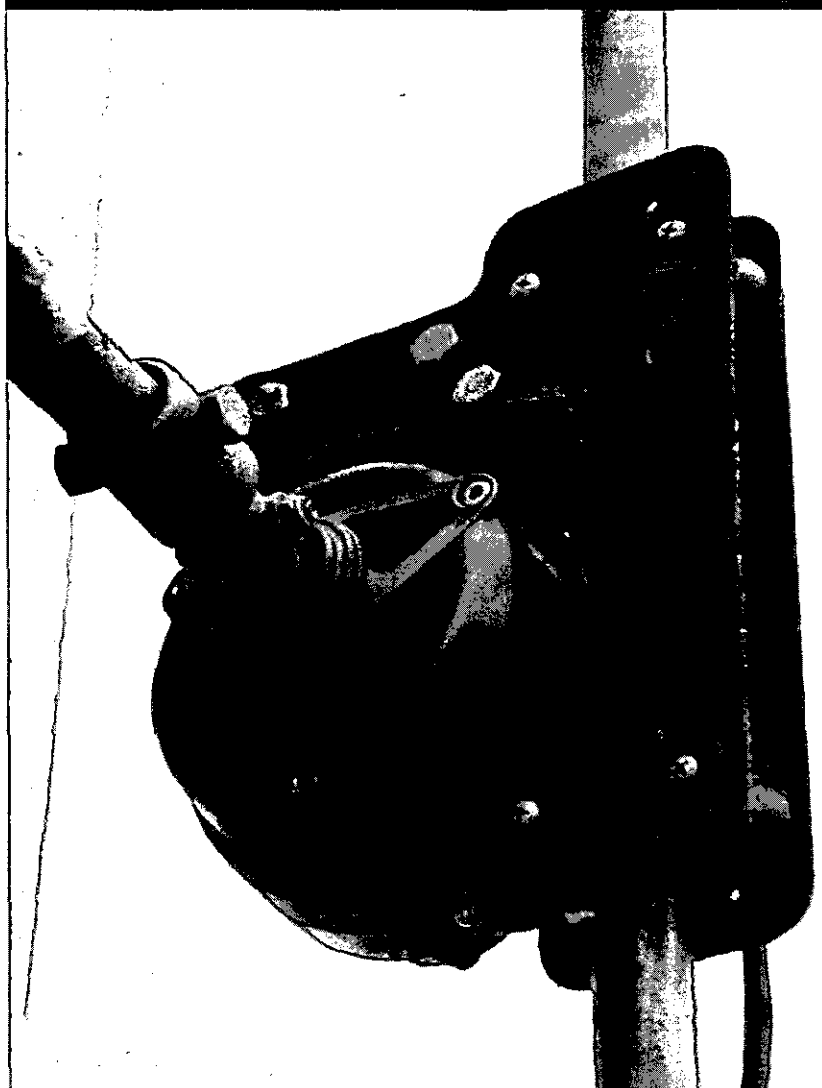
Welded - wrong	Bolded - correct

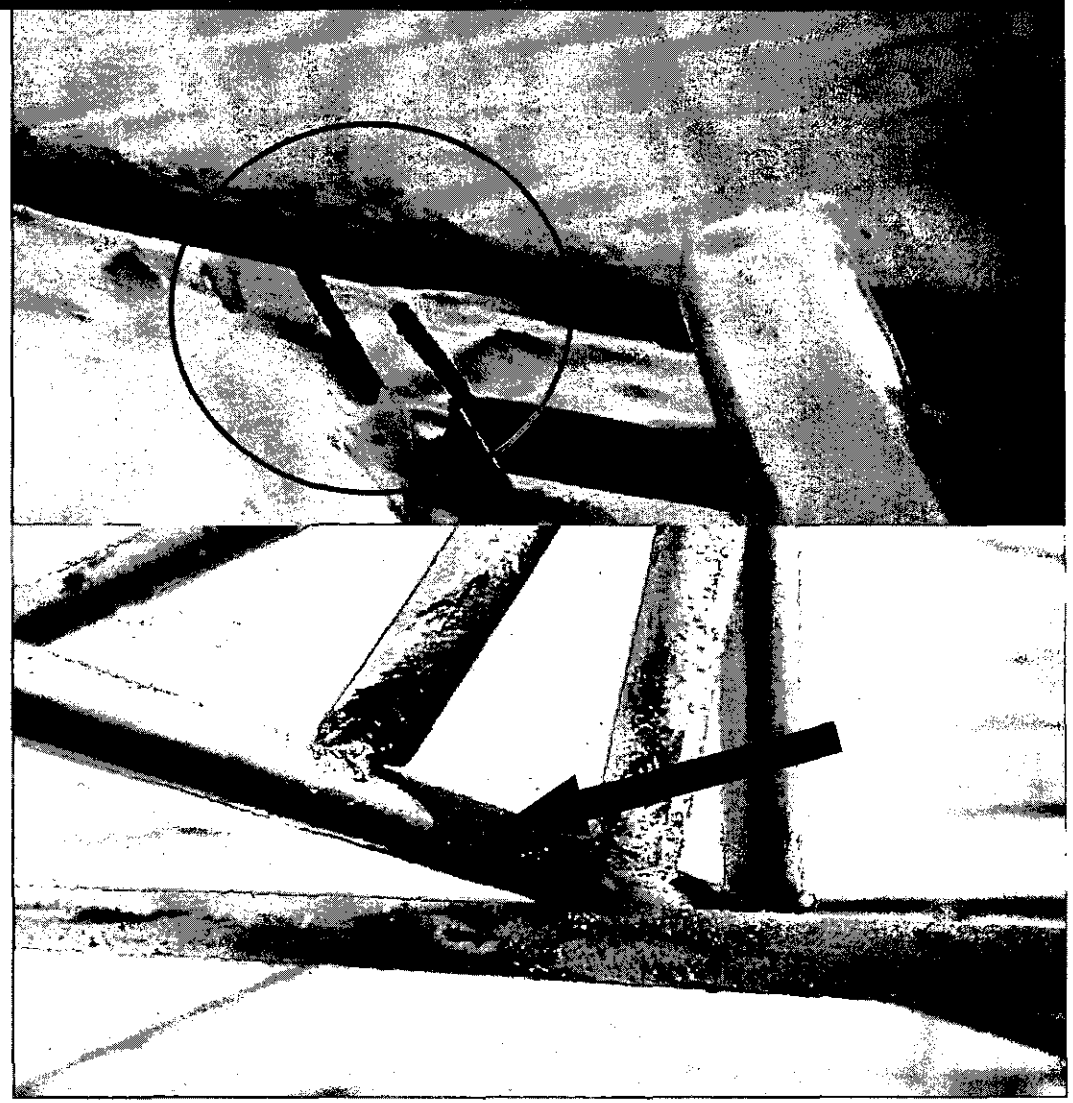


Galvanization

All component must be host still or cold (Zenzimir) galvanized

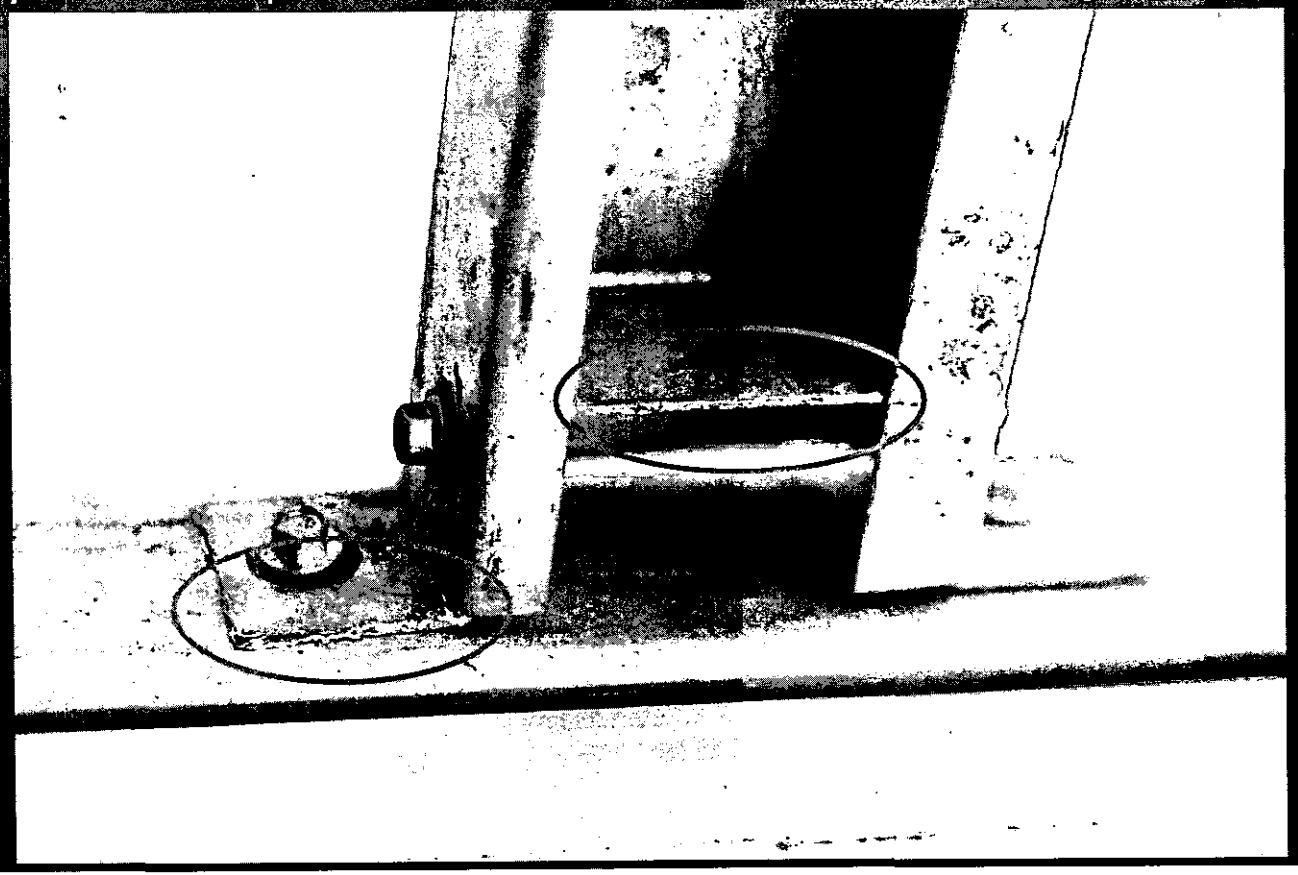
Metal part not galvanized get quickly rusted





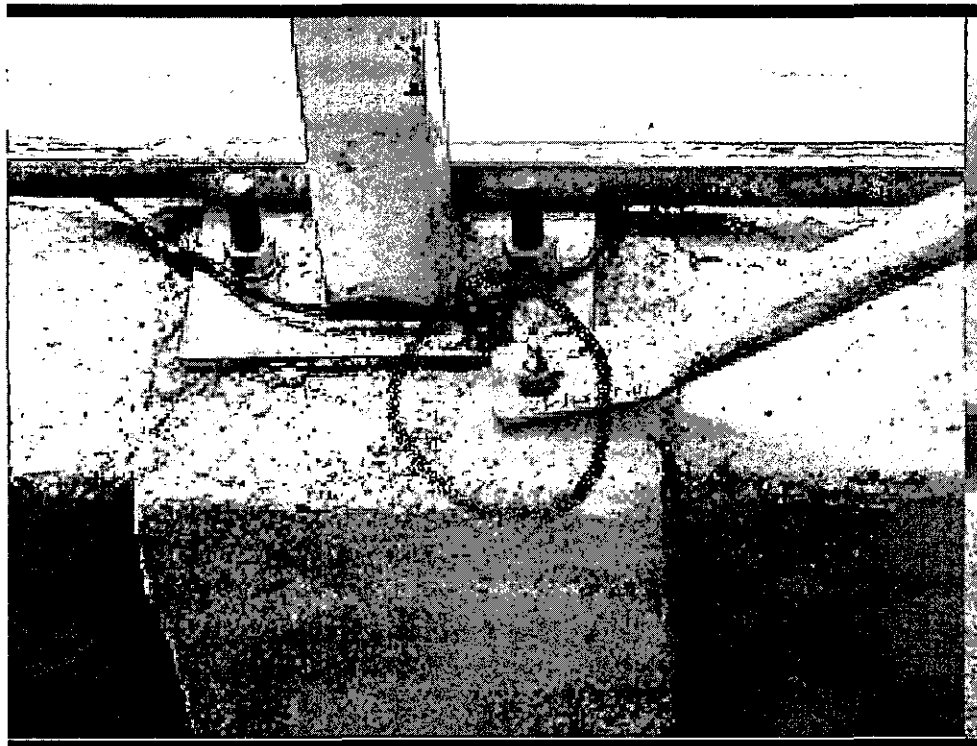
Galvanization

1. This component is cold still galvanized (Zenzimir) and was cut after the galvanization.
2. Components cut after the galvanization get rusted in the cutting point. Therefore they must be produced in row still and hot still galvanized afterward.

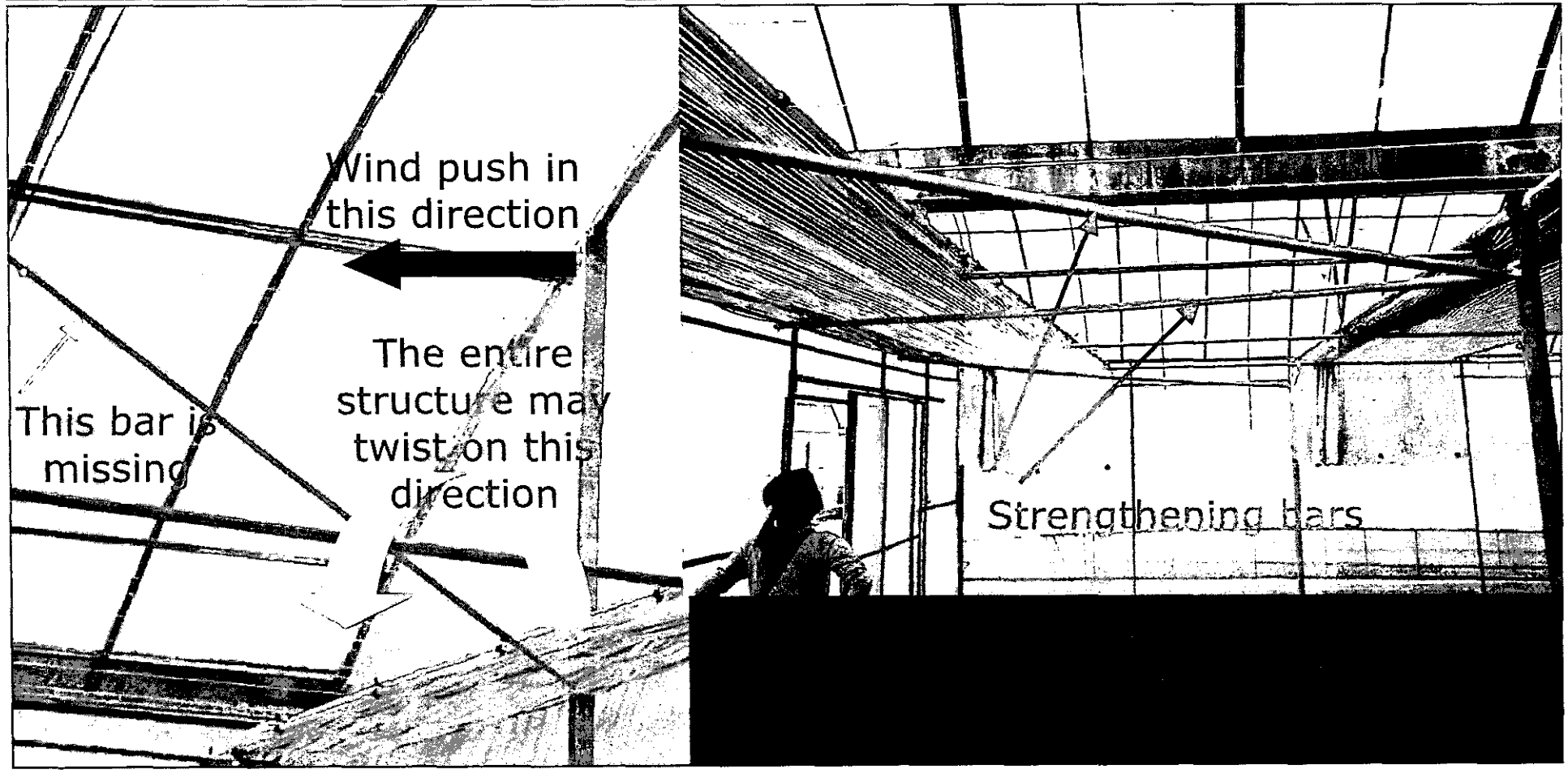


Bolds must be dimensioned according the the components' strength required

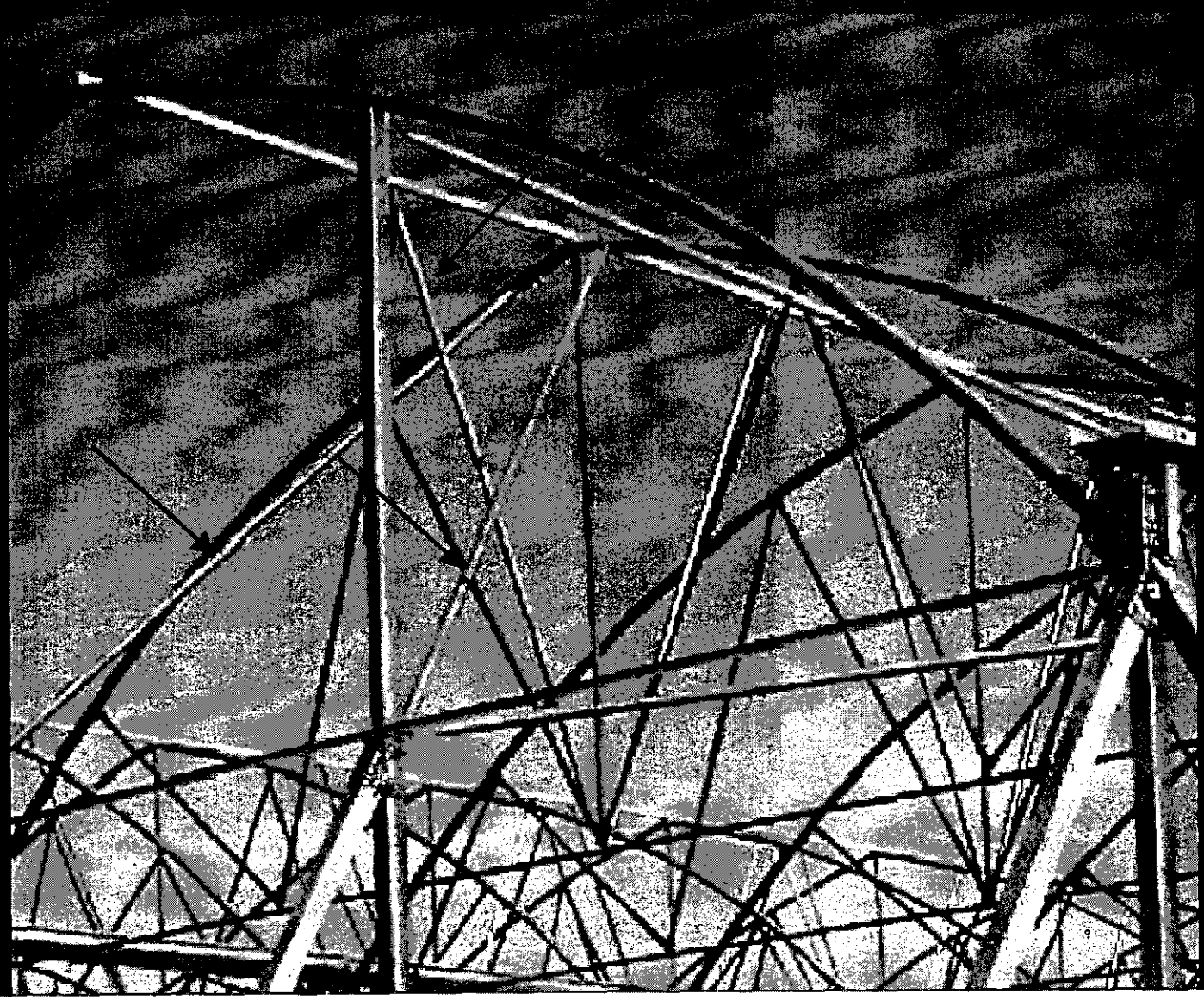
Correct bold size	Wrong bold size, too small



Structure strengthening components



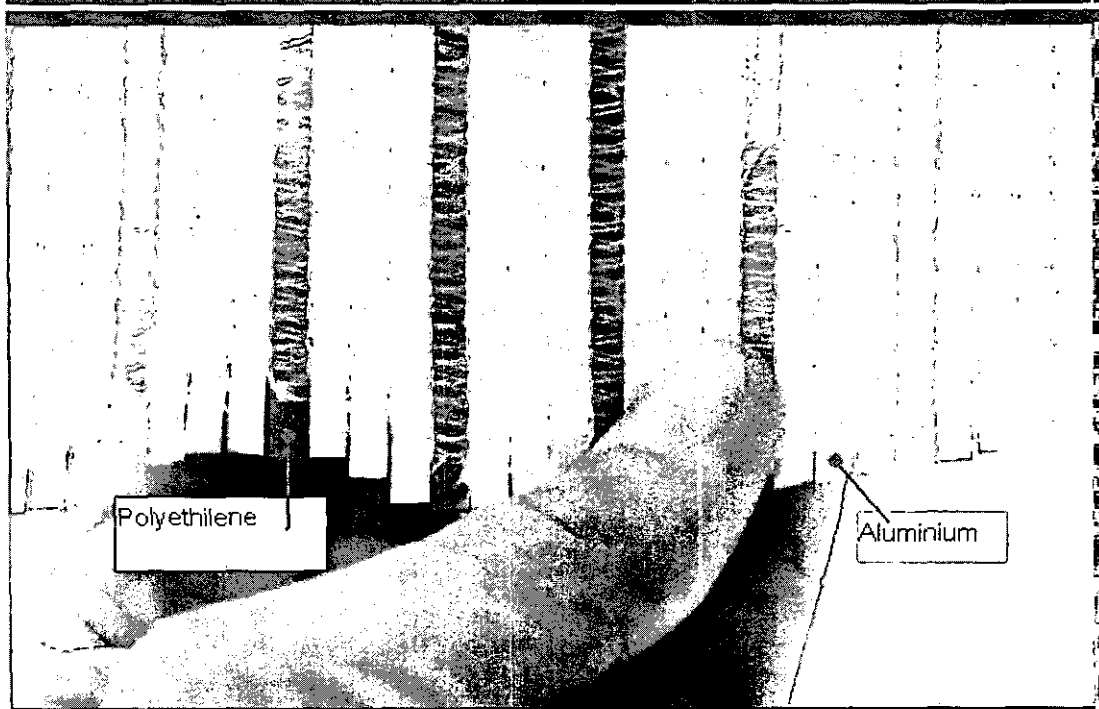
Structure strengthening components - bars



Thermal screen

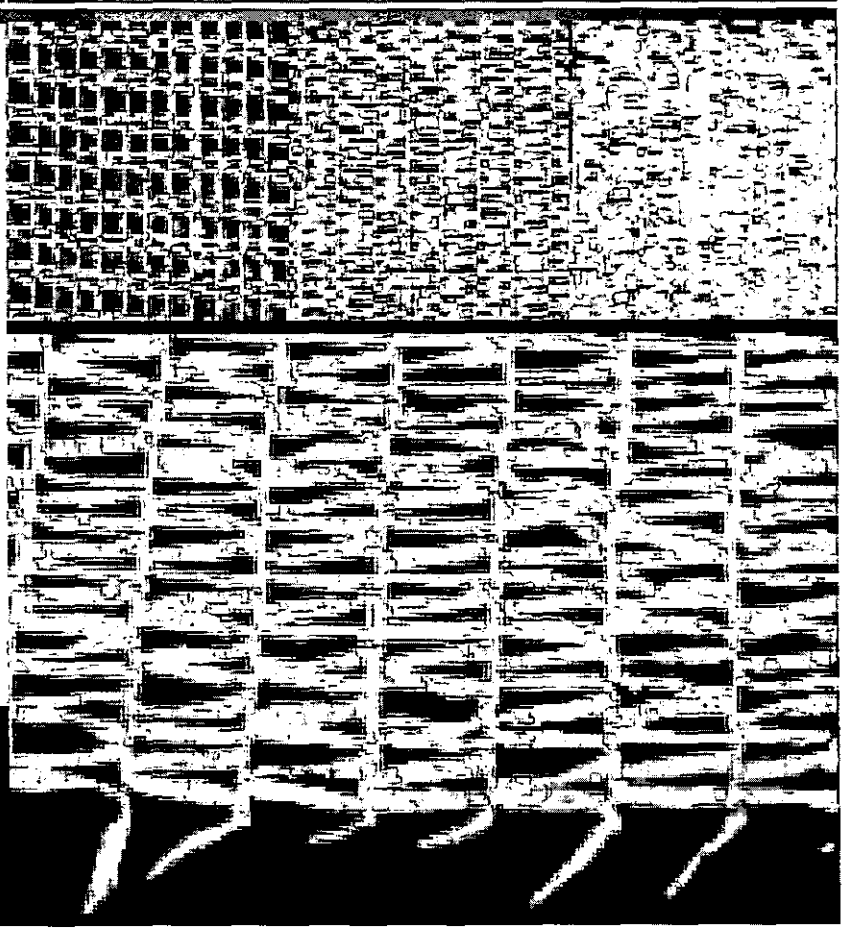
Close structure: aluminum + polyethylene

Scope: to



Open structure: aluminum

Scope: to



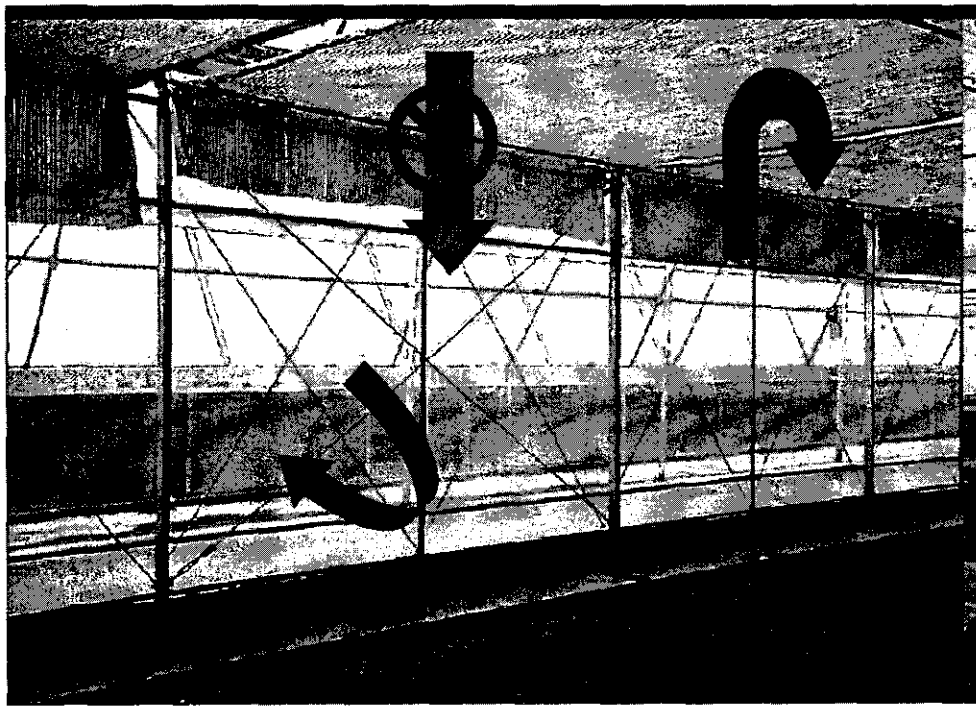
Close structure
Aluminum + Polyethylene

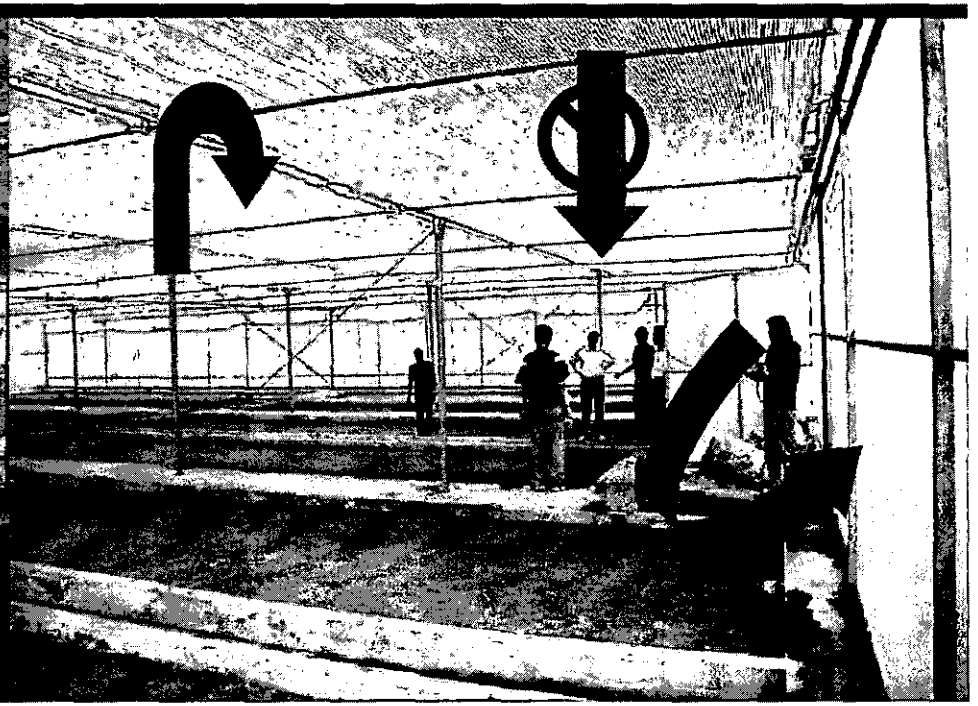
Strength: to temperature. It must fully cover ceiling and walls.

In the specific case shown below, the design chosen makes the screen inefficient, because heat escape through the uncovered side and front walls. No considerable increase of temperature is achieved.

Weakness: to temperature.

Very inefficient, the air circulation is limited therefore the heat do not escape through roof windows. The greenhouse overheat.



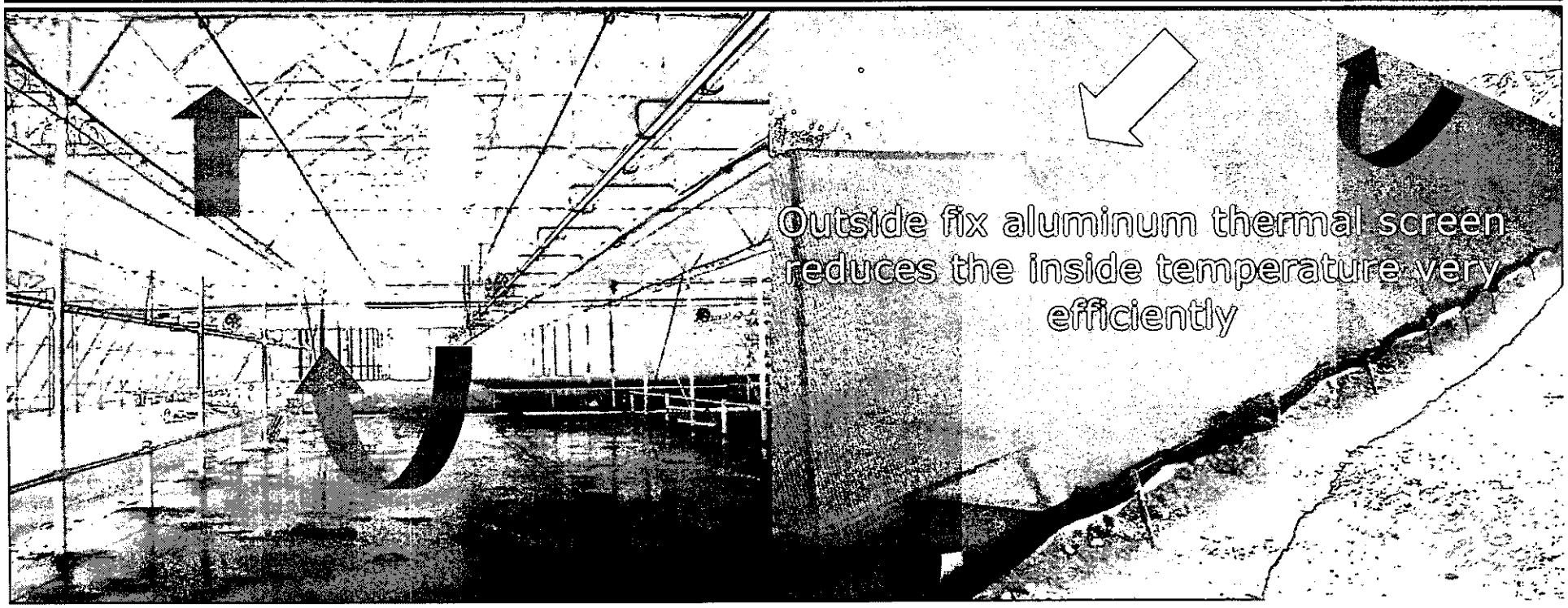


Open structure aluminum screen

Strength: to temperature. No need to cover the side walls, eventually the south wall.

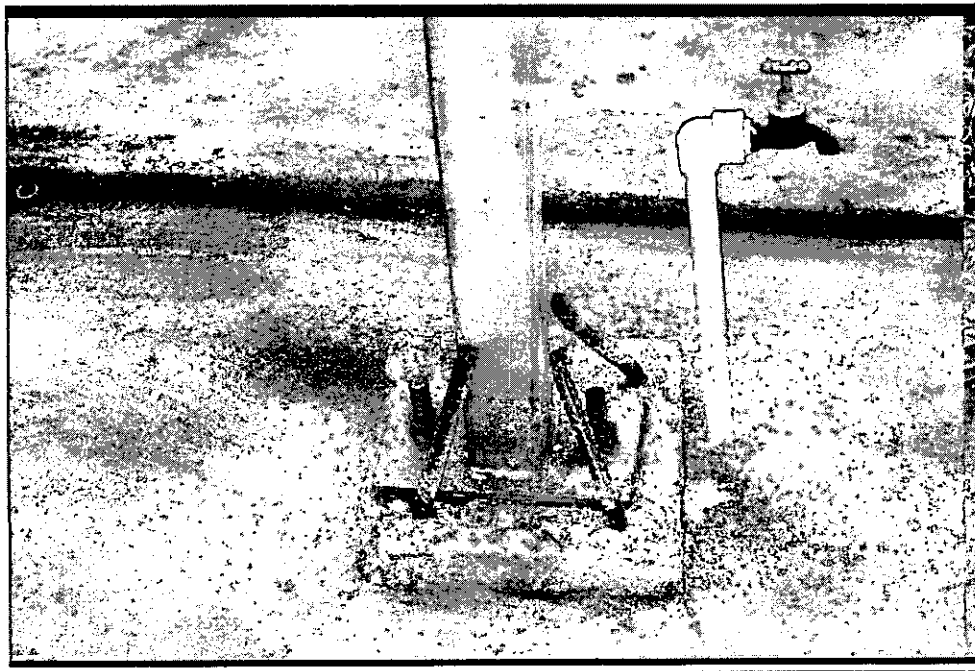
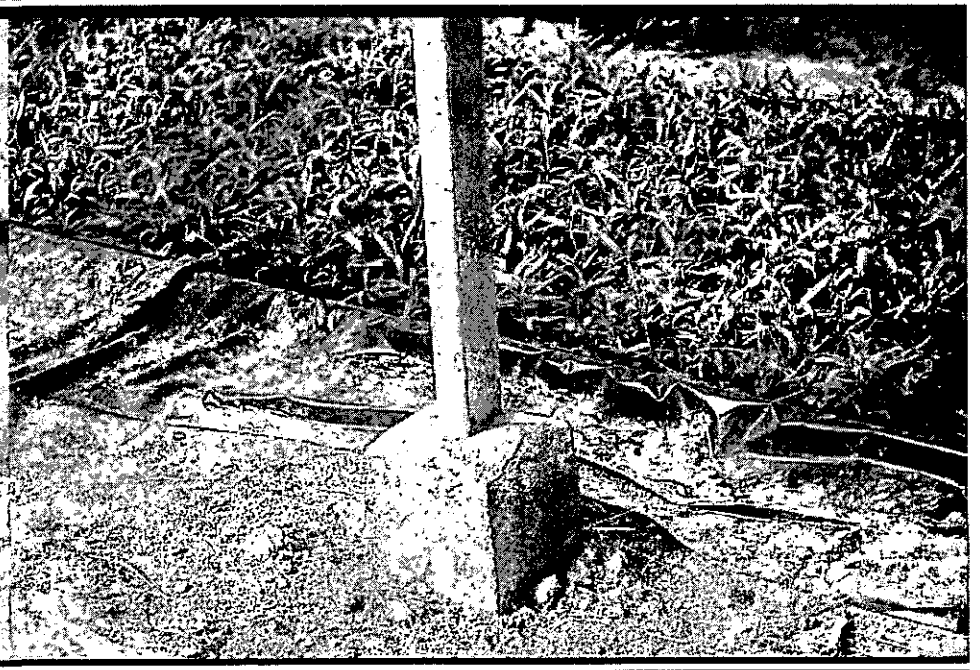
Very efficient, the air circulate through the screen and roof and side windows. A considerable reduction of the inside temperature is achieved.

Weakness: to temperature. Very limited, the heat escape through the open structure of the screen.



Civil works and installation

An accurate installation is the precondition to achieve the best possible performances from the equipment available

Wrong	Correct
	
The post is loose	The post is stable
Bolds and metal part are rusted	The base is protected against rust, corrosion and machinery

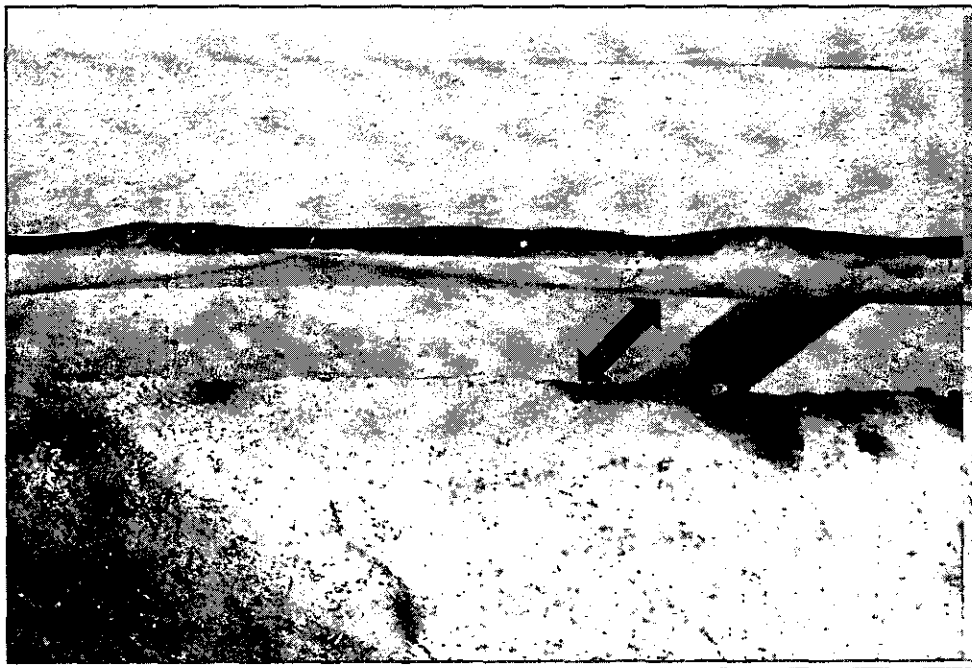
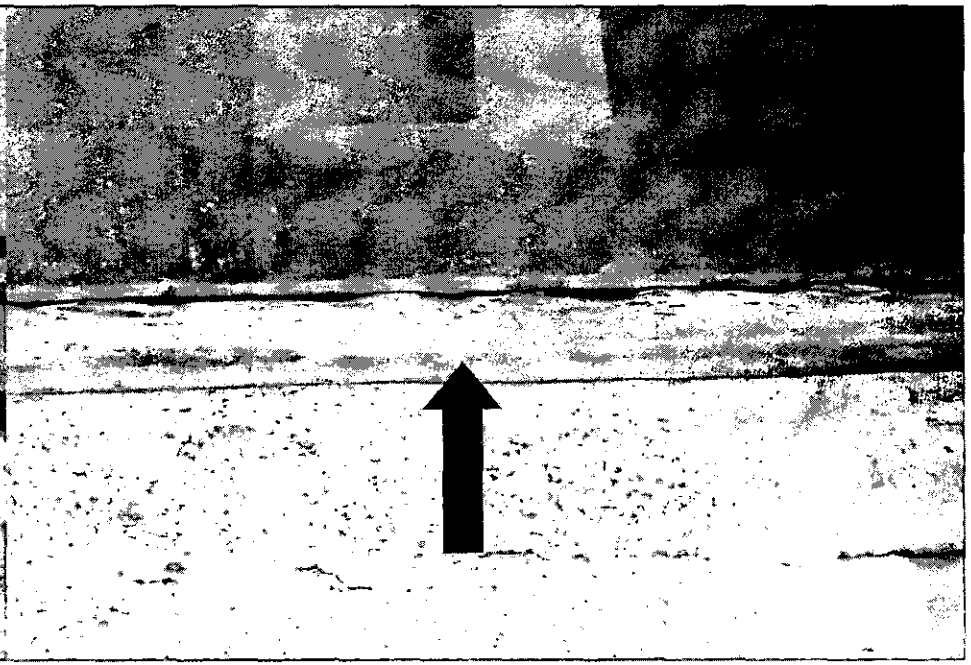
Civil works and installation

Installation of rails under entrance doors

Wrong	Correct
	
Open space between the rail and the concrete path, insect easily enter into the greenhouse	The junction between the rail and the concrete path is perfectly sealed

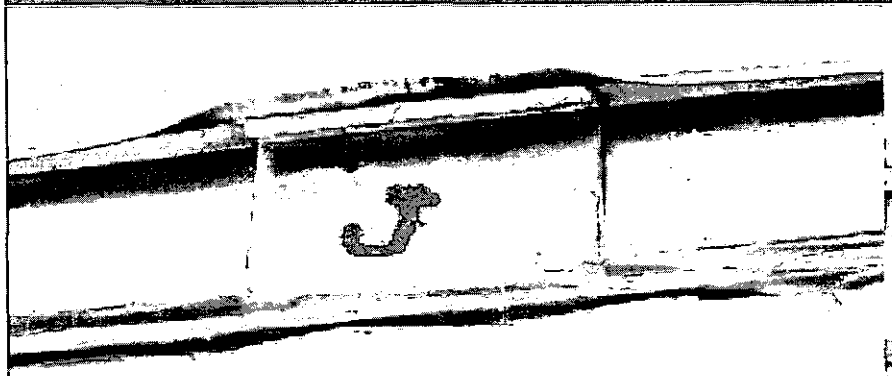
Civil works and installation

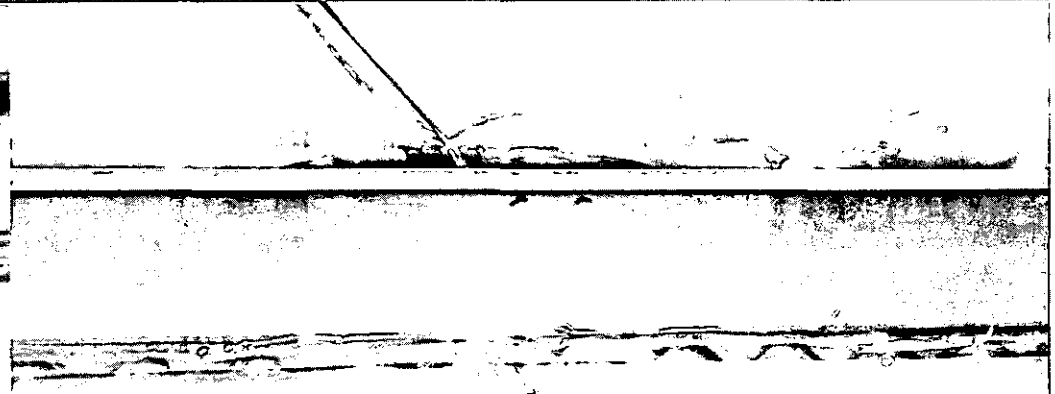
Junction between side walls and side paths

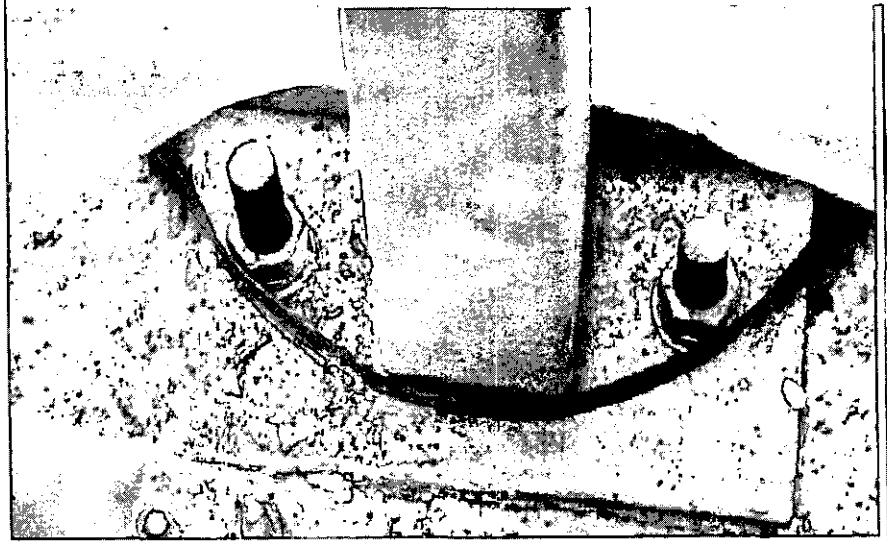
Wrong	Correct
	
Open space at the bottom of the side wall, insects, rats and other animals could easily enter into the greenhouse	The junction between the side wall and the side path is perfectly sealed

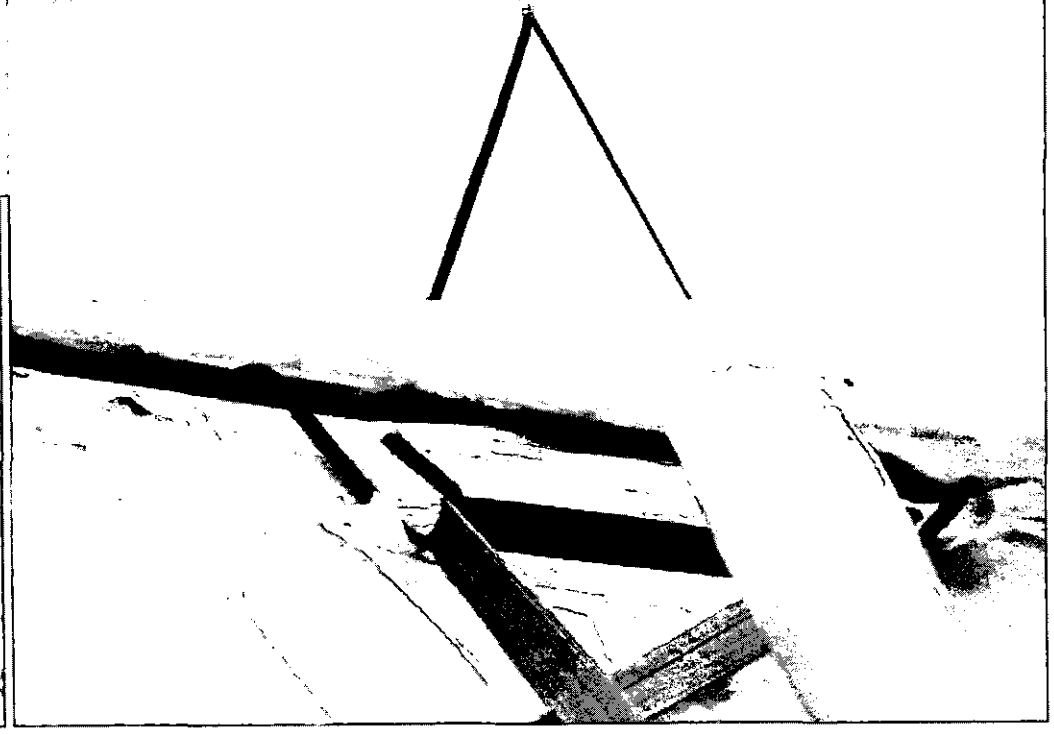
Civil works and installation

: the system is unsuitable, the hooks are too week and get quickly rusted, therefore the strings are loose and so the side curtains insecure.





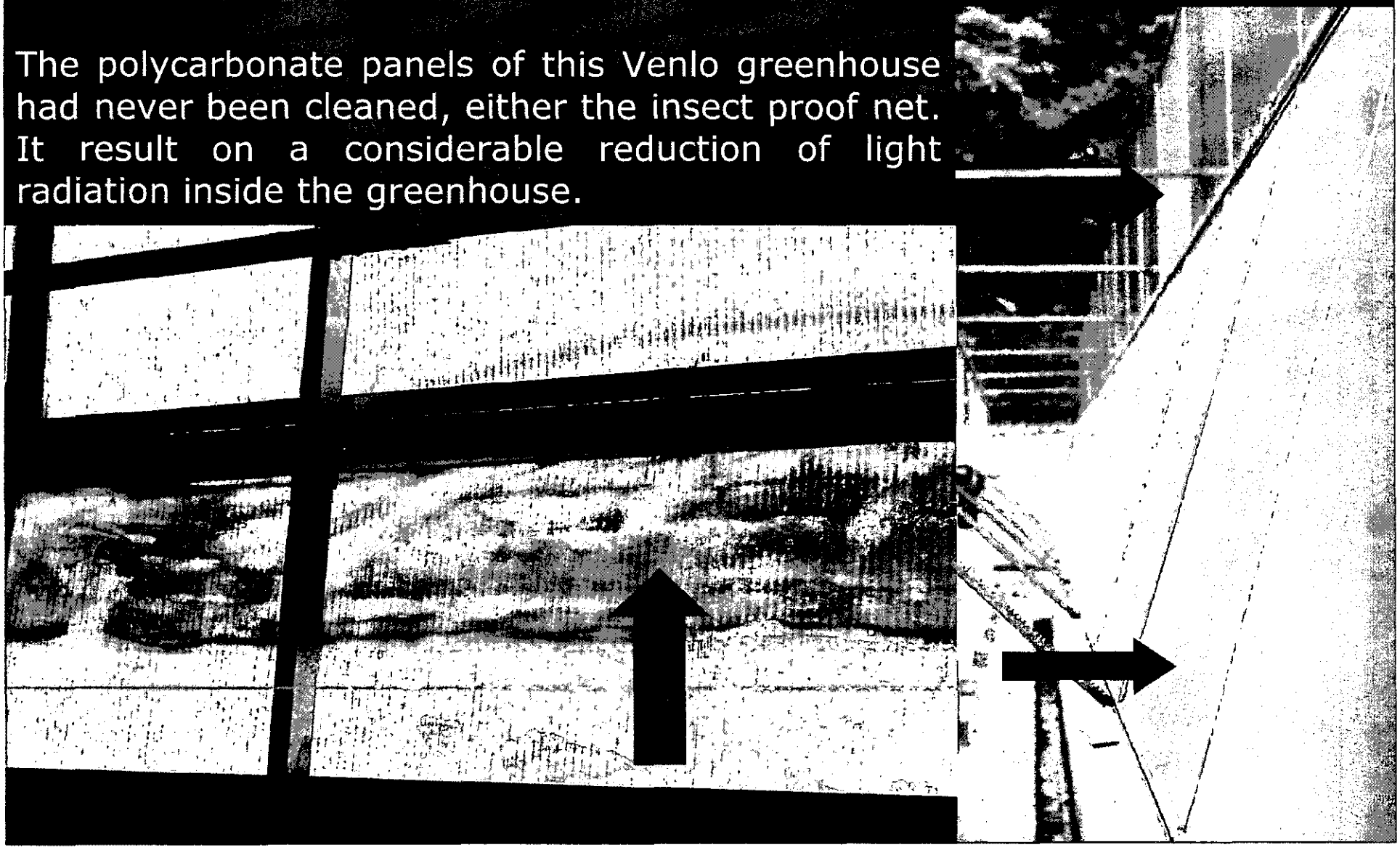




Civil works and installation

Maintenance must be carry out regularly and promptly

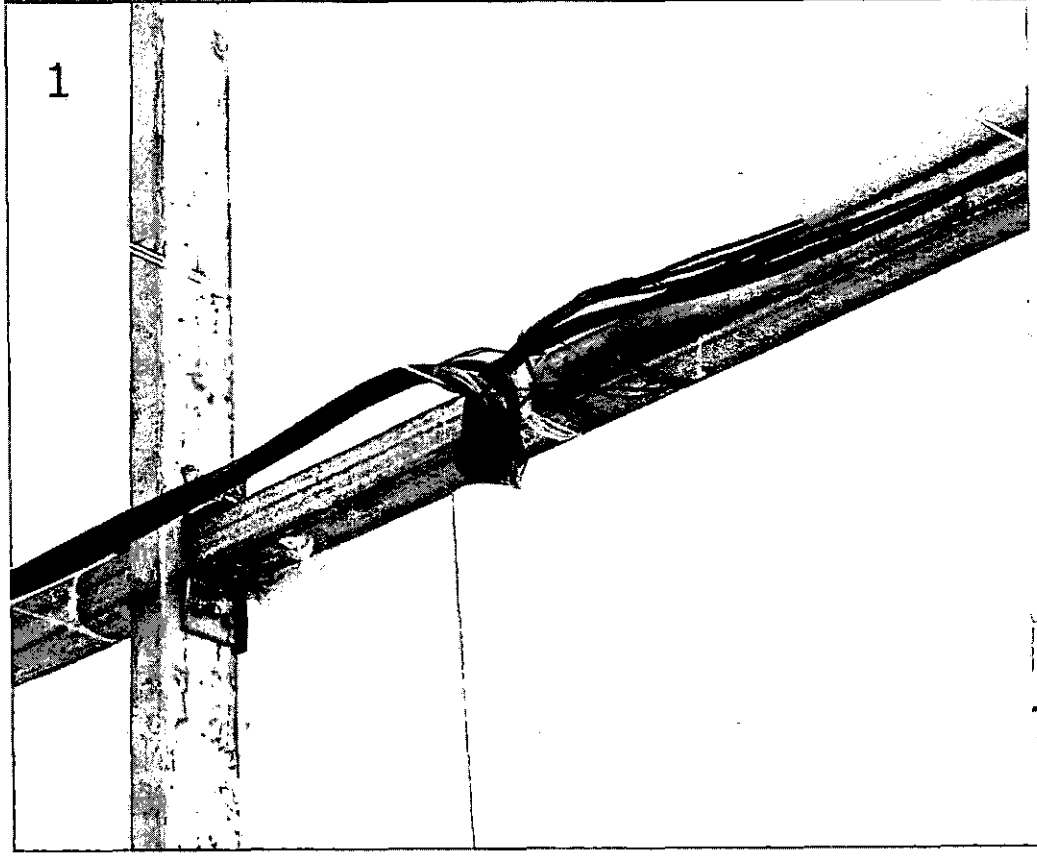
The polycarbonate panels of this Venlo greenhouse had never been cleaned, either the insect proof net. It result on a considerable reduction of light radiation inside the greenhouse.

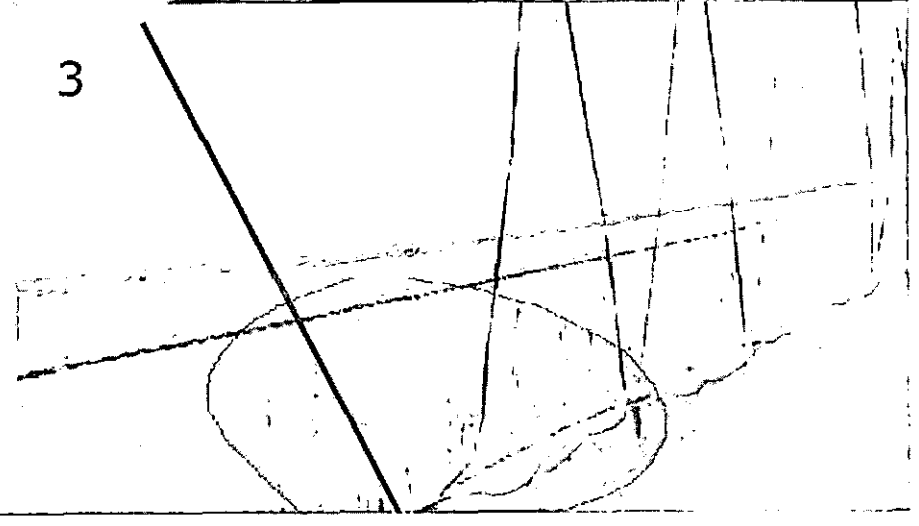


Civil works and installation

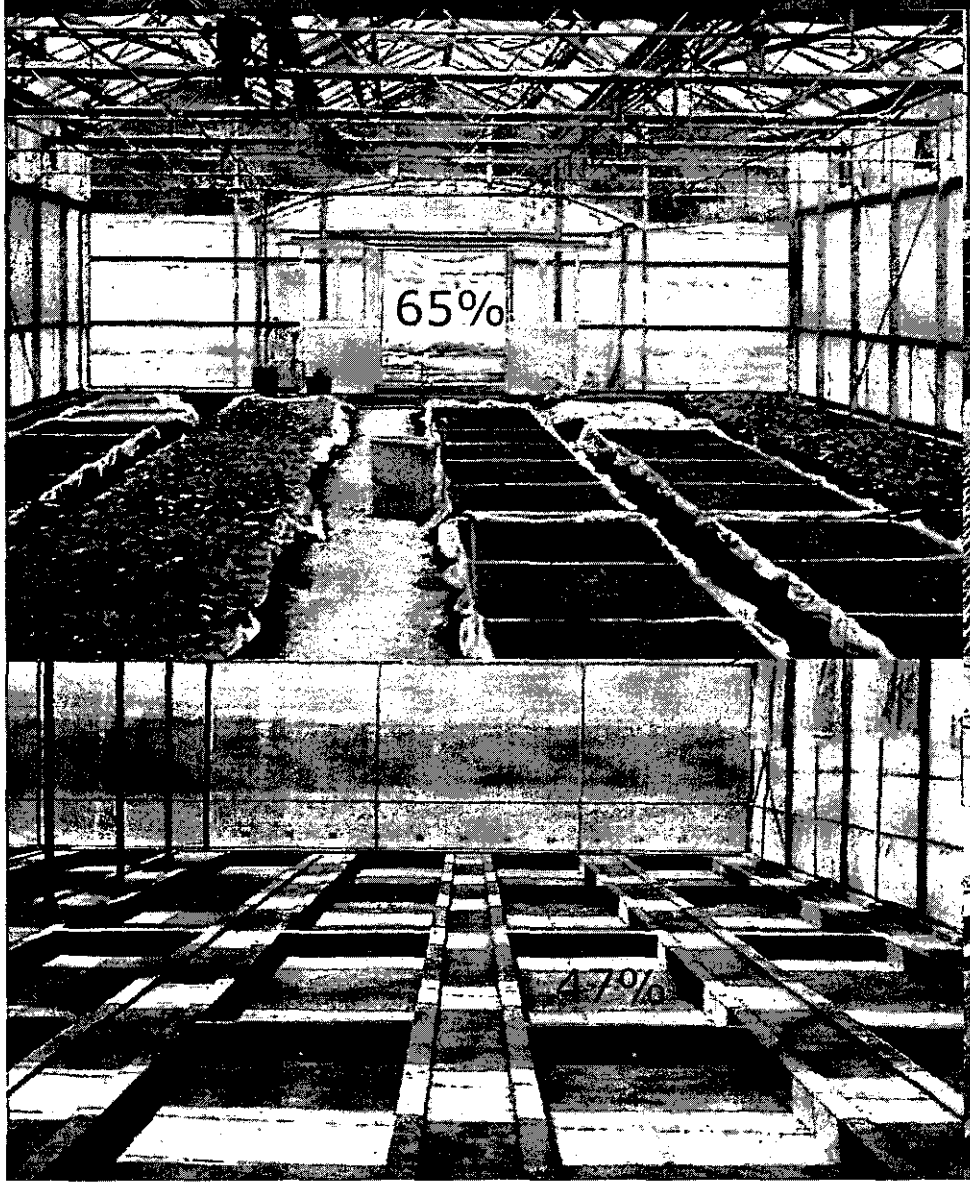
Maintenance must be carry out regularly and promptly

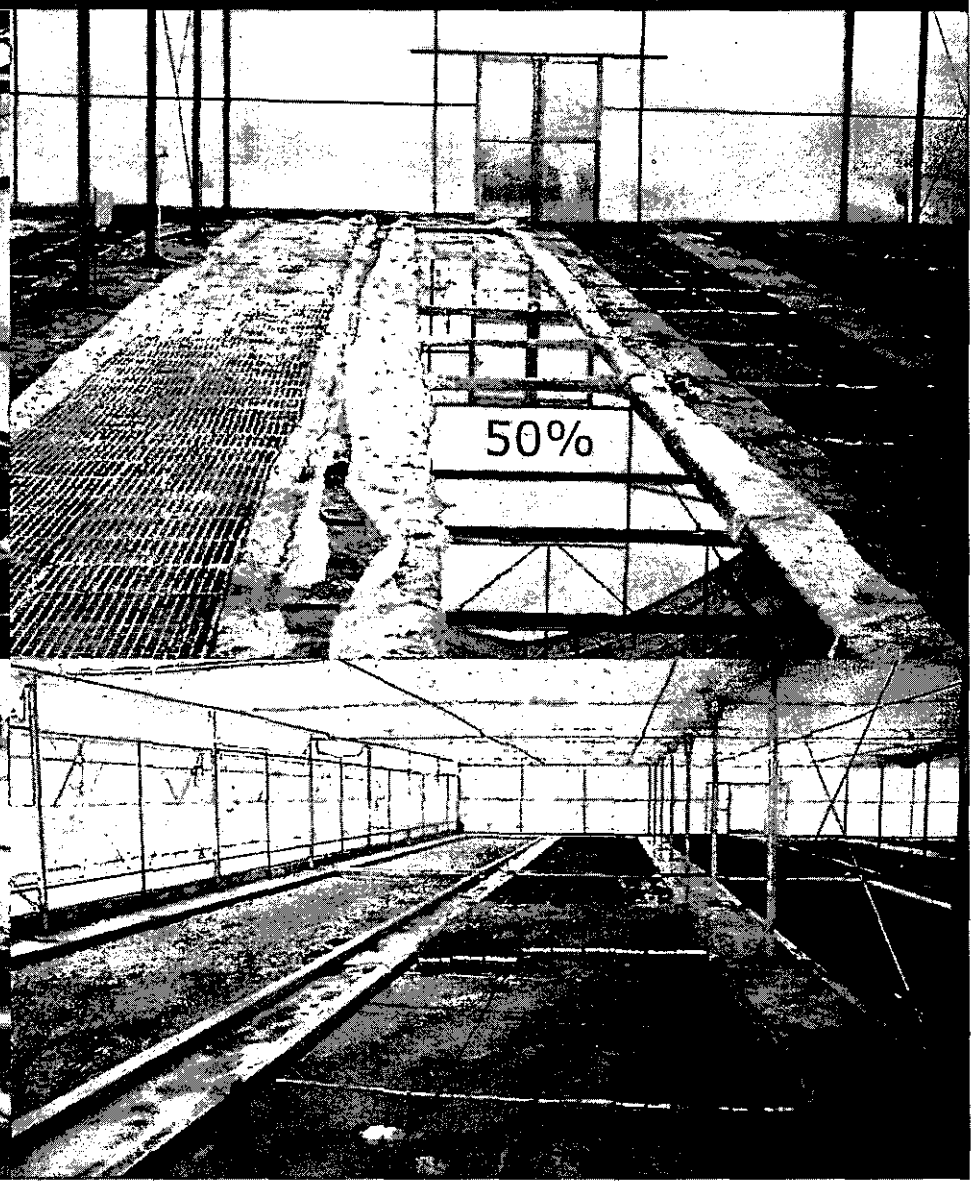
1. Electric wires unprotected.
2. Side profile damaged and bended.
3. Strings loose and partly missing





Space management and efficiency



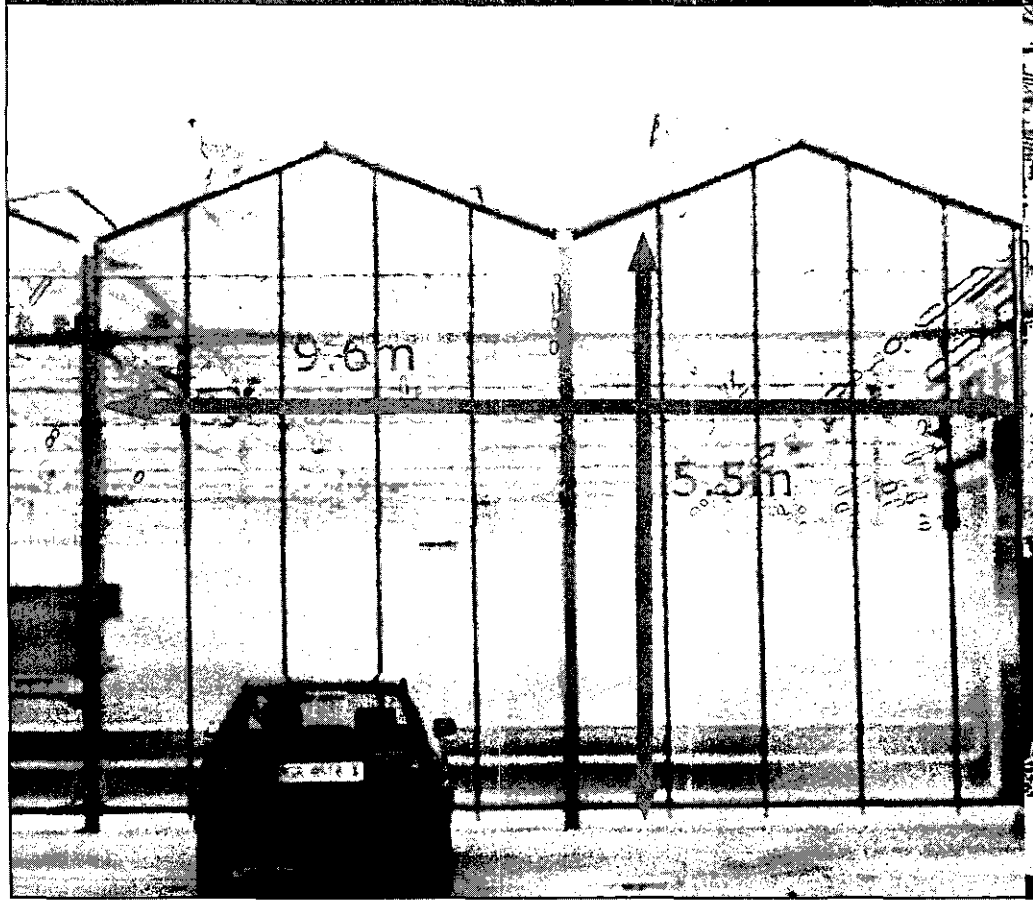


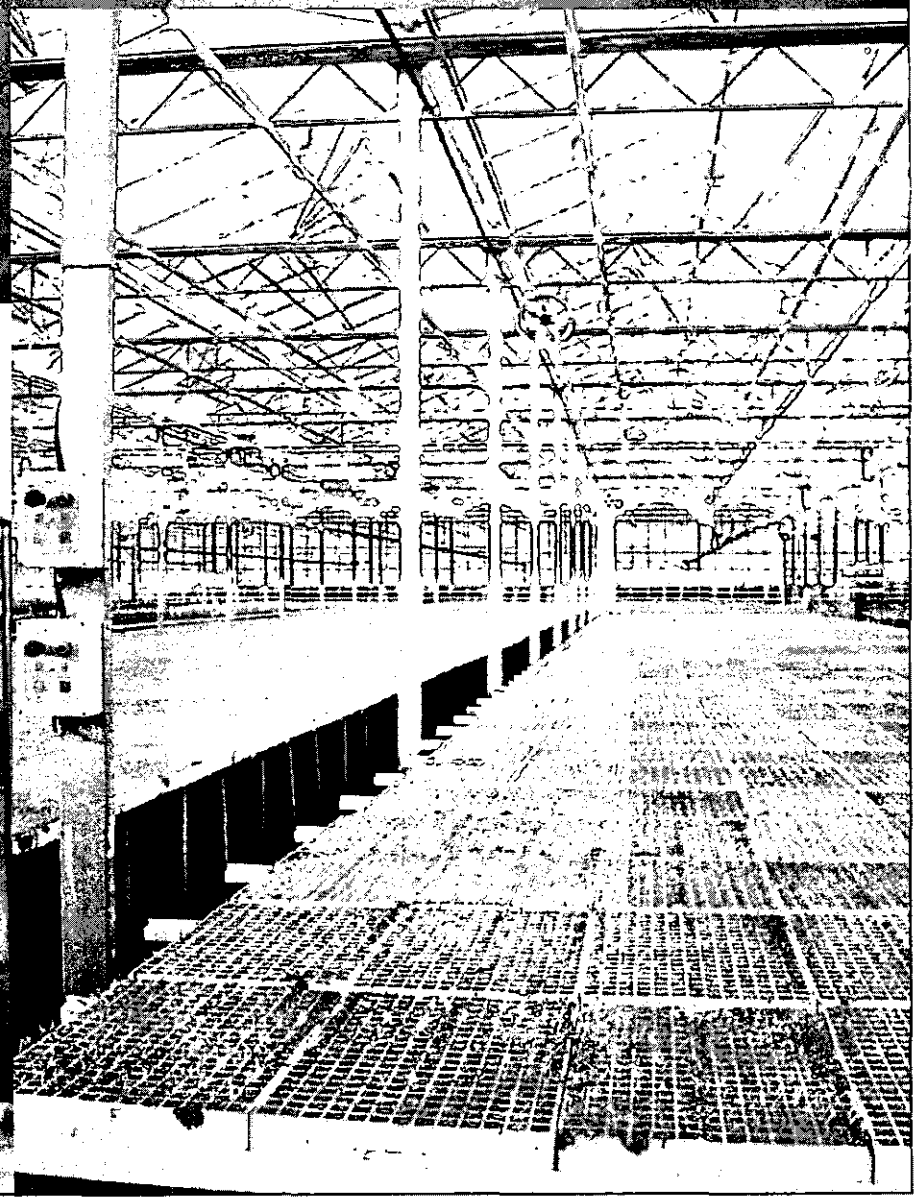
Greenhouse volume

The highest the volume the better the climatic control

Venlo type glass

1. Ratio Volume/Area = 6.1m³/m²
2. High energy efficiency glasshouse
3. High light radiation

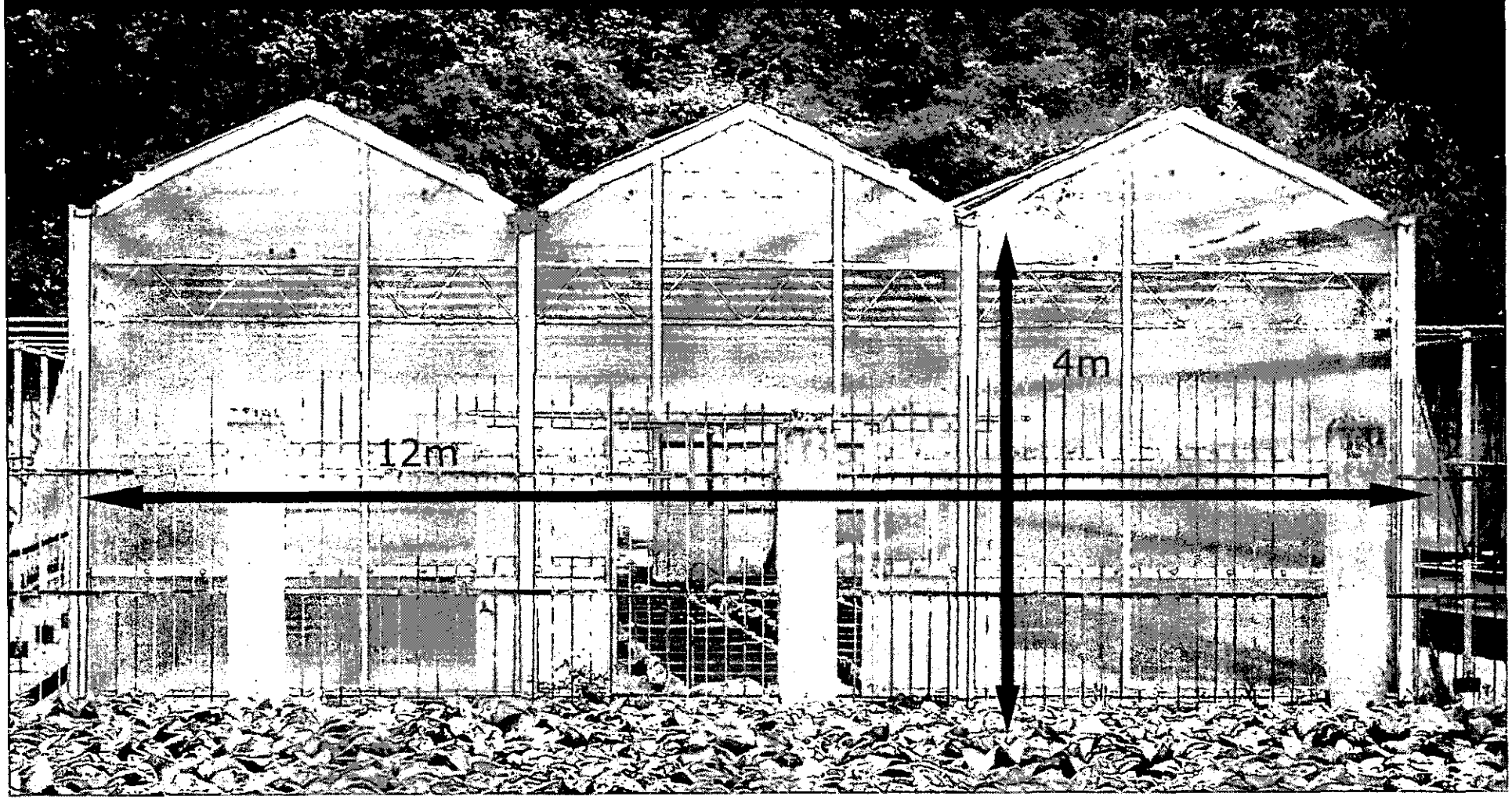




Greenhouse volume

Venlo type polycarbonate

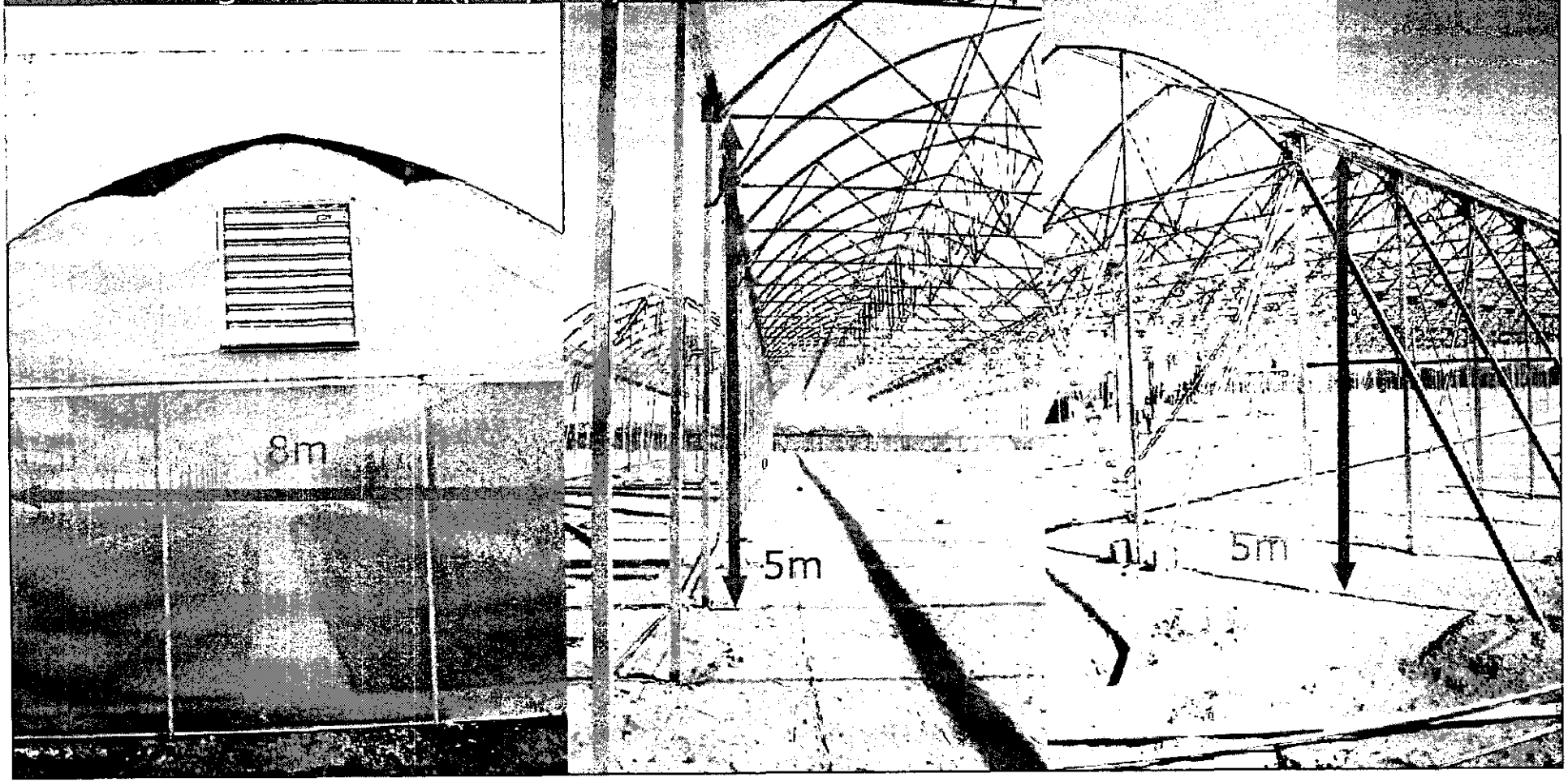
1. Ratio Volume/Area = 4.6m^3/m^2



Greenhouse volume

Multiunit plastic house - Gothic shape arch

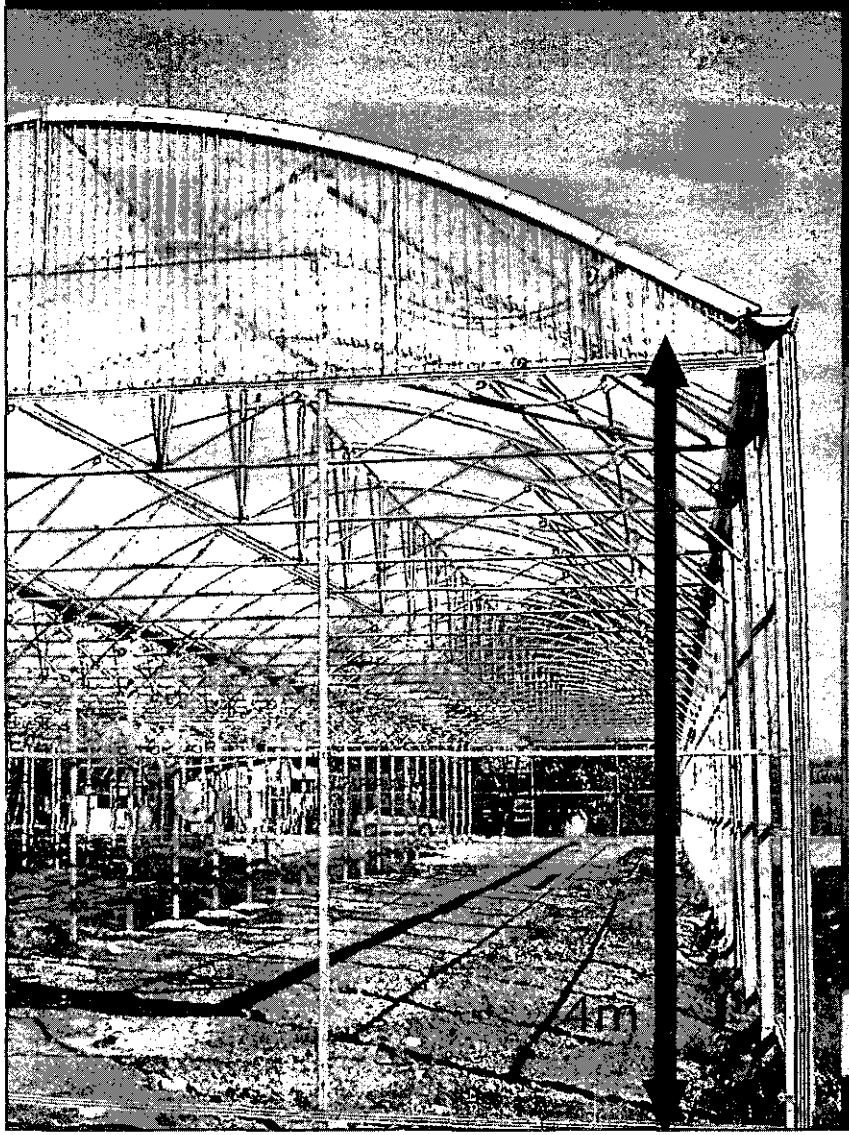
1. Ratio Volume/Area = 6.1 m^3/m^2
2. High wind strength
3. Covering flexibility (polyethylene film, shading net, insect proof net, etc.)



Greenhouse volume

Multiunit plastic house - Round shape arch

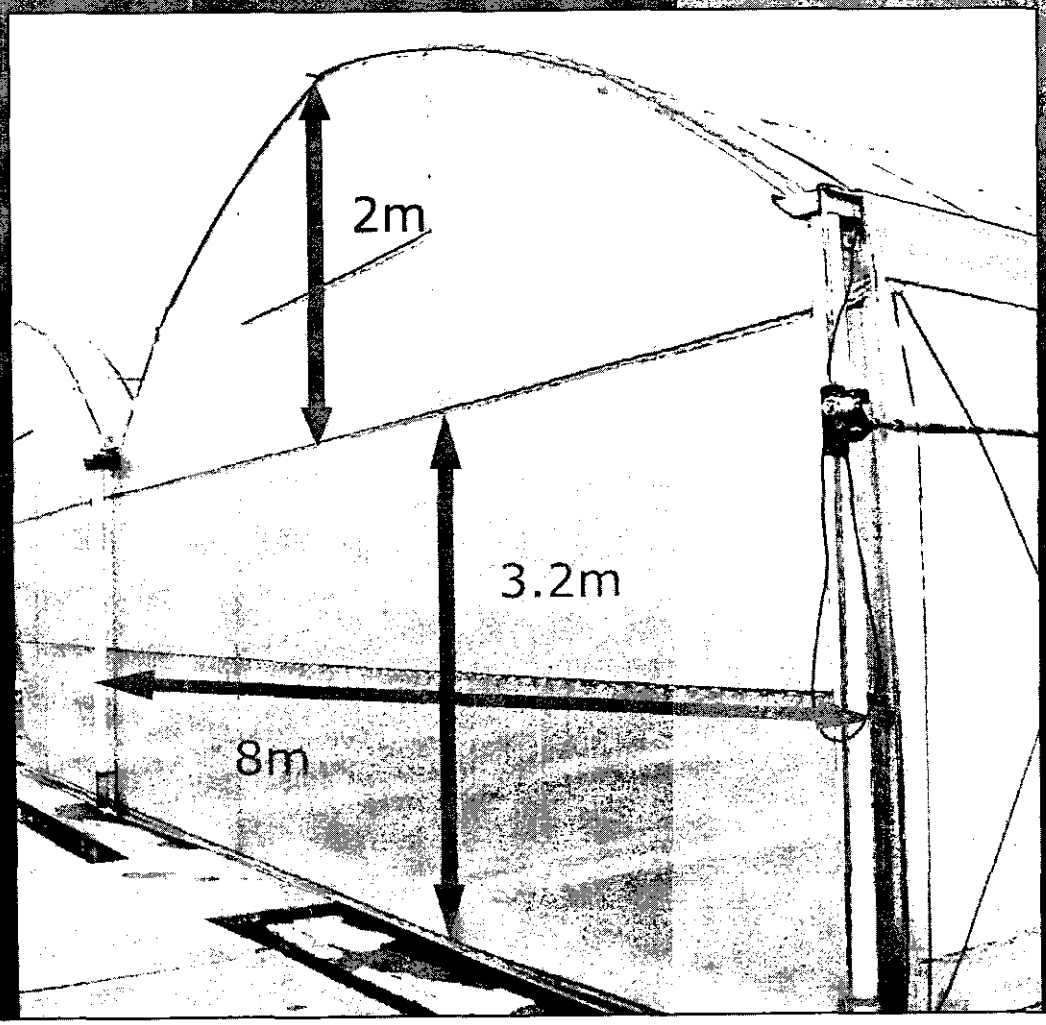
1. Ratio Volume/Area = 4.6m^3/m^2
2. High wind and snow load strength
3. Covering flexibility polyethylene film, shading net, insect proof net, etc.)



Greenhouse volume

Multiunit plastic house - Round shape arch

Ratio Volume/Area = 4.3m^3/m^2



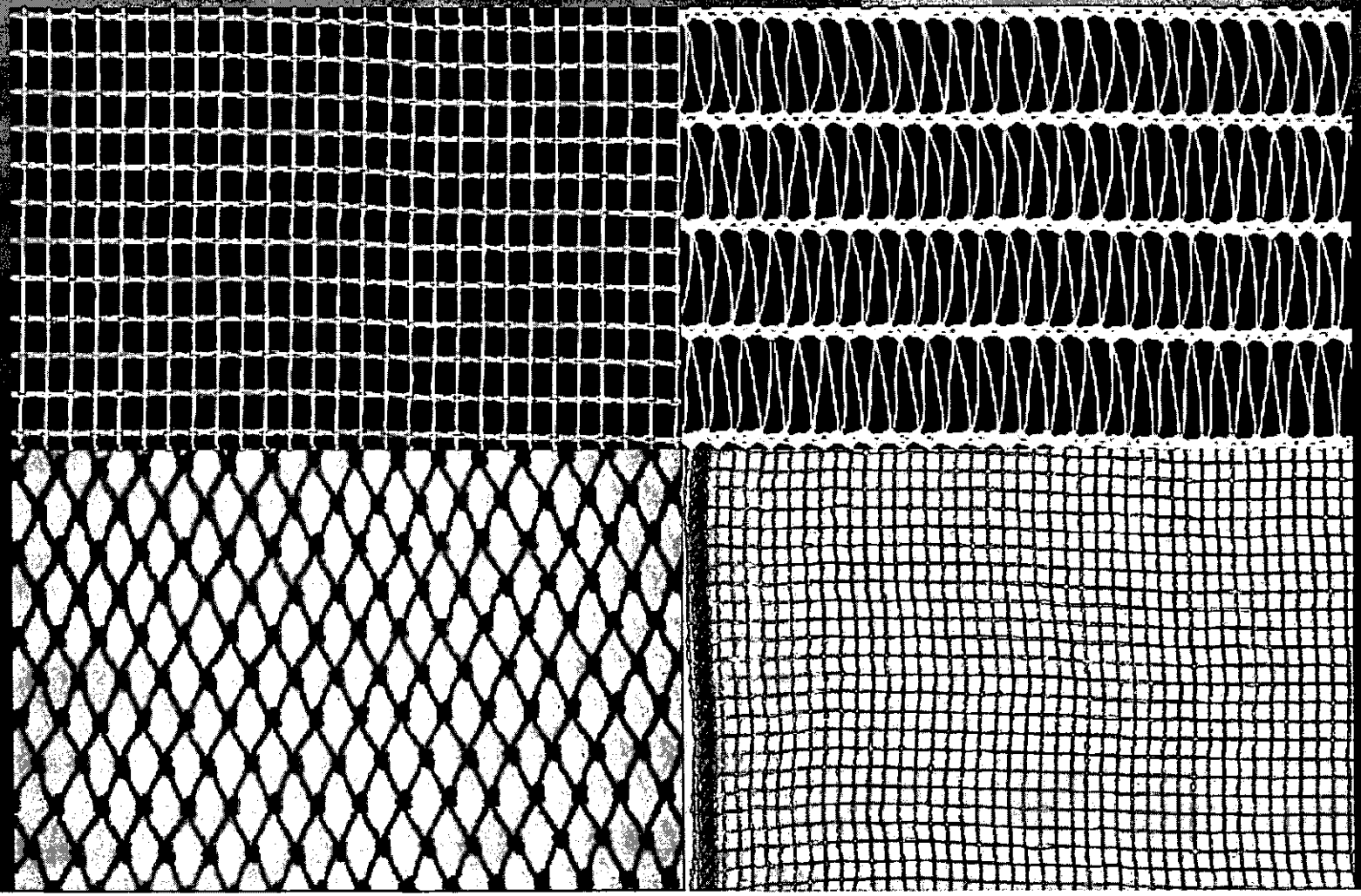
Pest management and virus management

It is recommended not to grow any plants around greenhouses, it may facilitate the propagation of insects and pathogens (Virus) inside the greenhouses. The surrounding must be clean of green plants of any sort, mainly ornamentals and flowers, and weeds.

Insect proof net

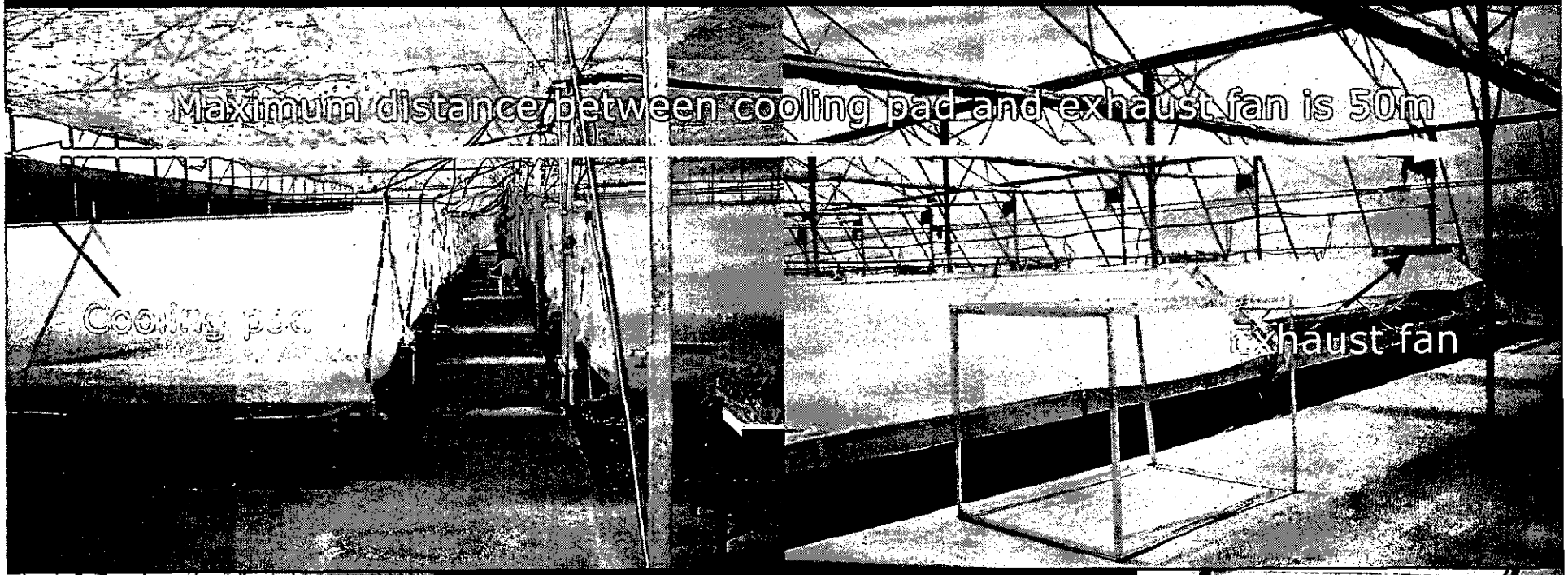
In principal, all kind of nets reduce the air circulation with consequent increase of temperature and relative humidity.

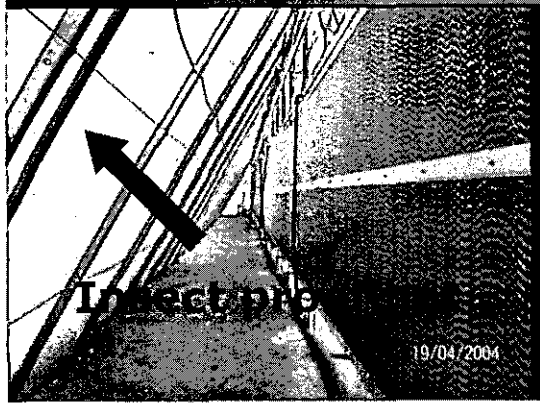
Net must be selected base on the presence of insects transmitting virus, bigger holes are preferable whenever possible



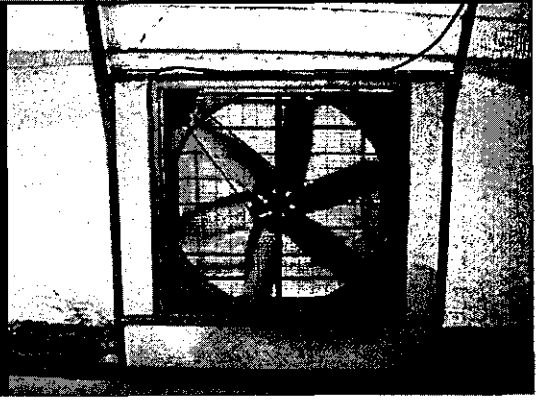
Cooling plants

It may reduce the inside temperature from 5 to 7ºC according to the relative humidity (RU) in the air. The higher the RU the lower the temperature reduction





Orientation



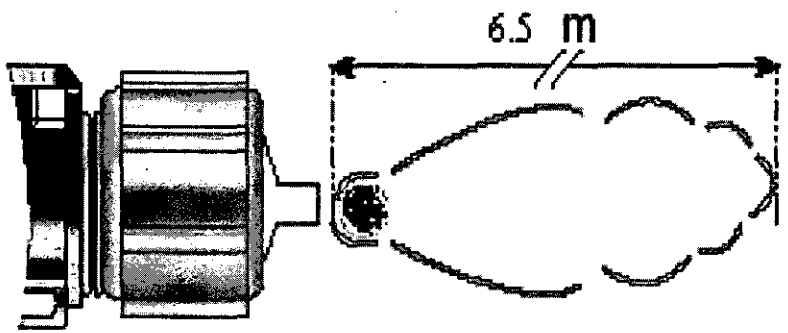
Ventilation plant

It can be used to reduce temperature and relative humidity or making them more uniform within the different layers.

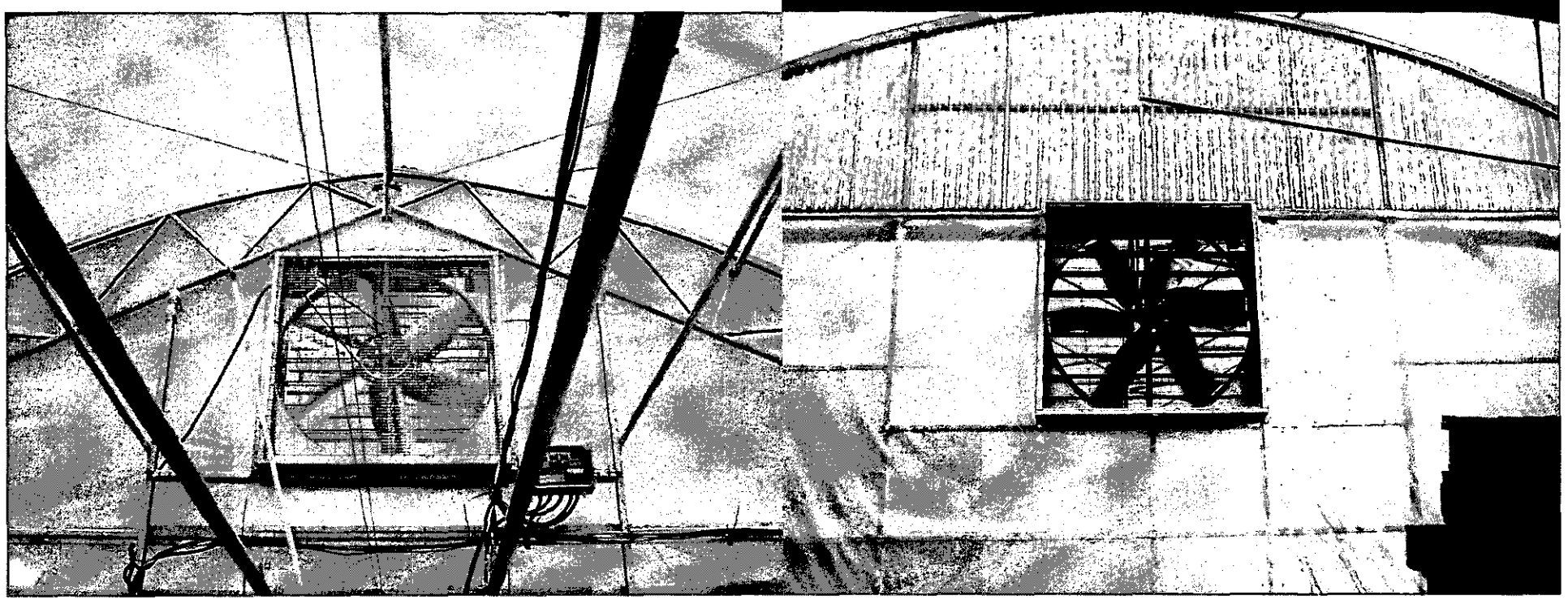
It prevent the humidity to condense on the seedlings, reducing the risk of fungal diseases.

Fans: they brake and mix air layers inside the greenhouse, making the temperature and relative humidity uniform. The advantage apply for both heating and cooling.

Exhaust fan: they remove the hot air from the greenhouse. They also generate an air circulation with the same beneficial effect as fans.

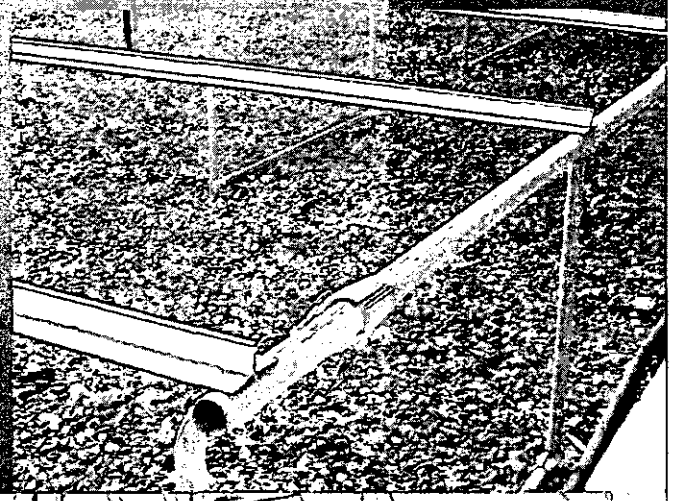


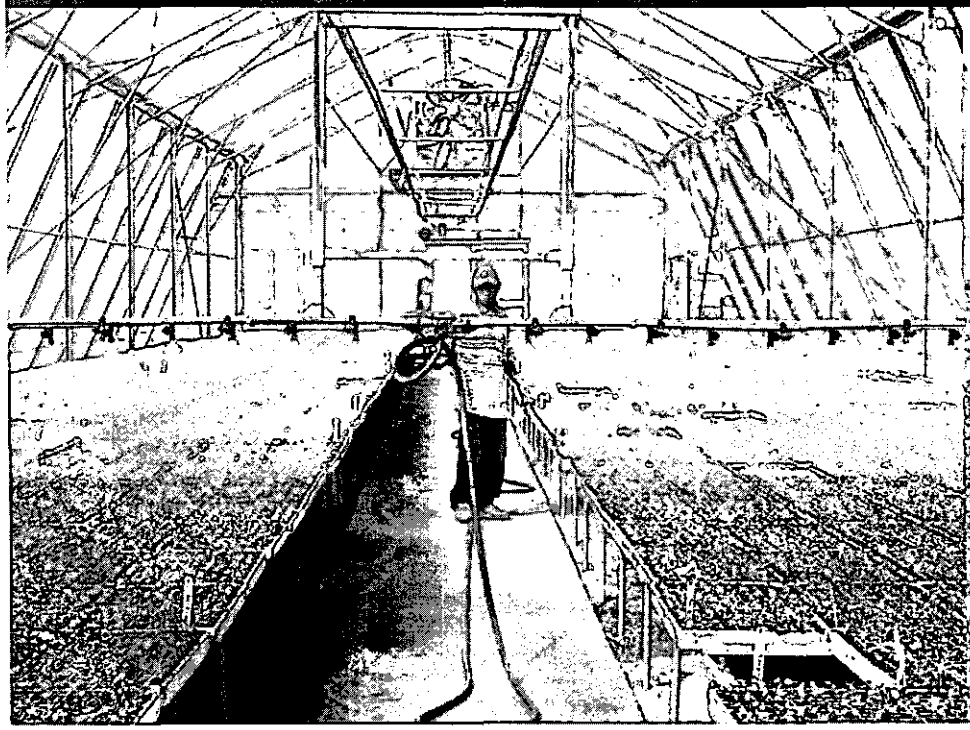
The cooling effect can be strengthen using fog nozzles (air/water) that spray small water particles (max. 50 micron) in the air. The cooling effect is achieved by evaporation

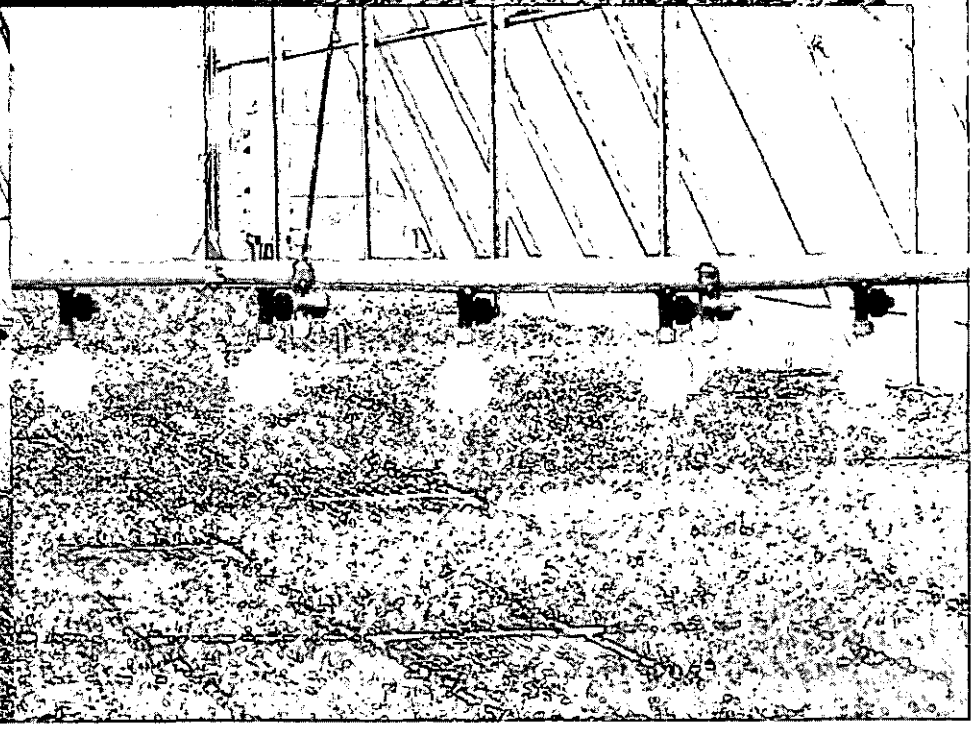


Suspended tray system and Overhead irrigation systems

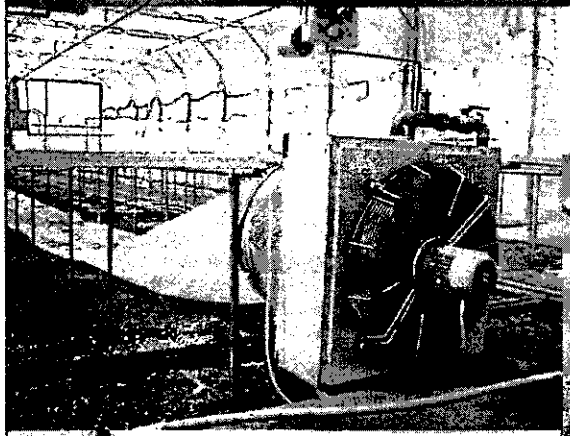
For those cases where the floating tray system is not suitable, tobacco seedlings may be produced with the suspended tray system. The irrigation is done through irrigation bars.

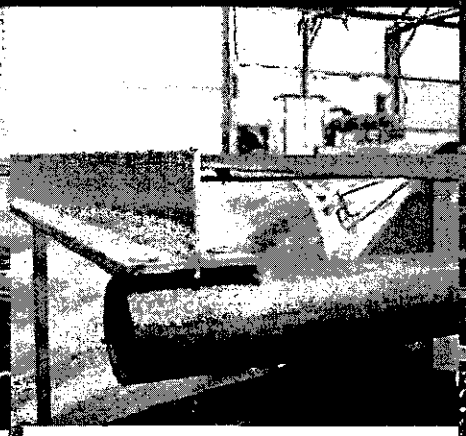


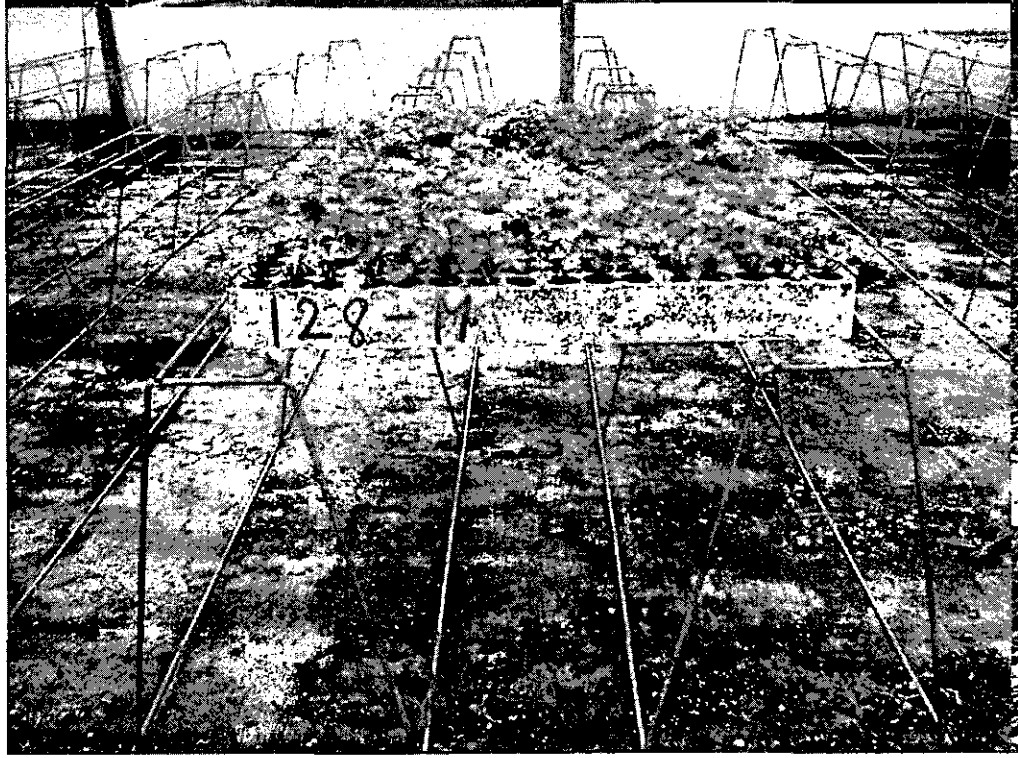


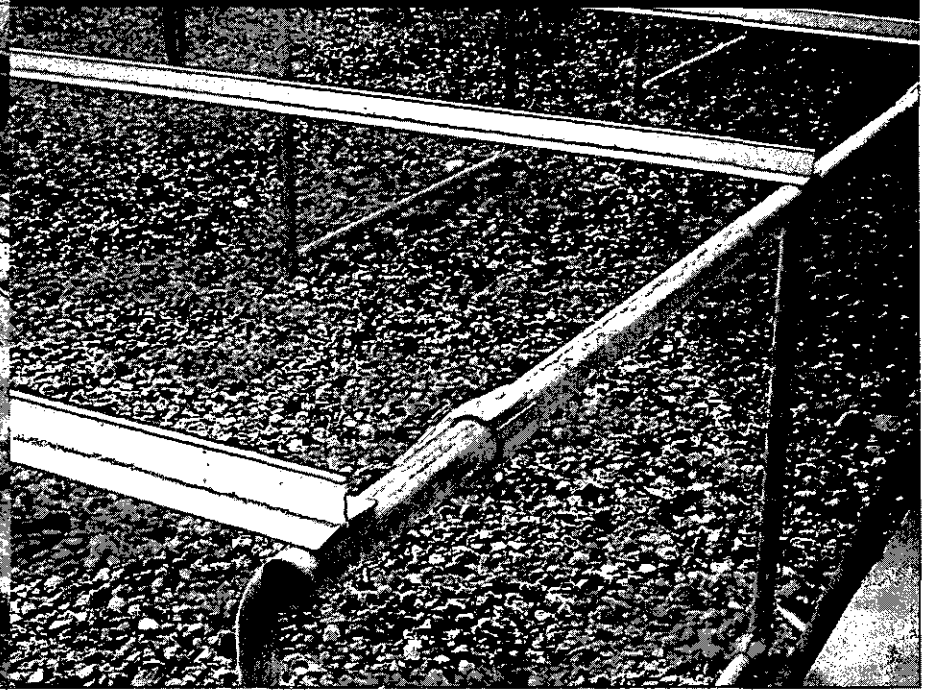


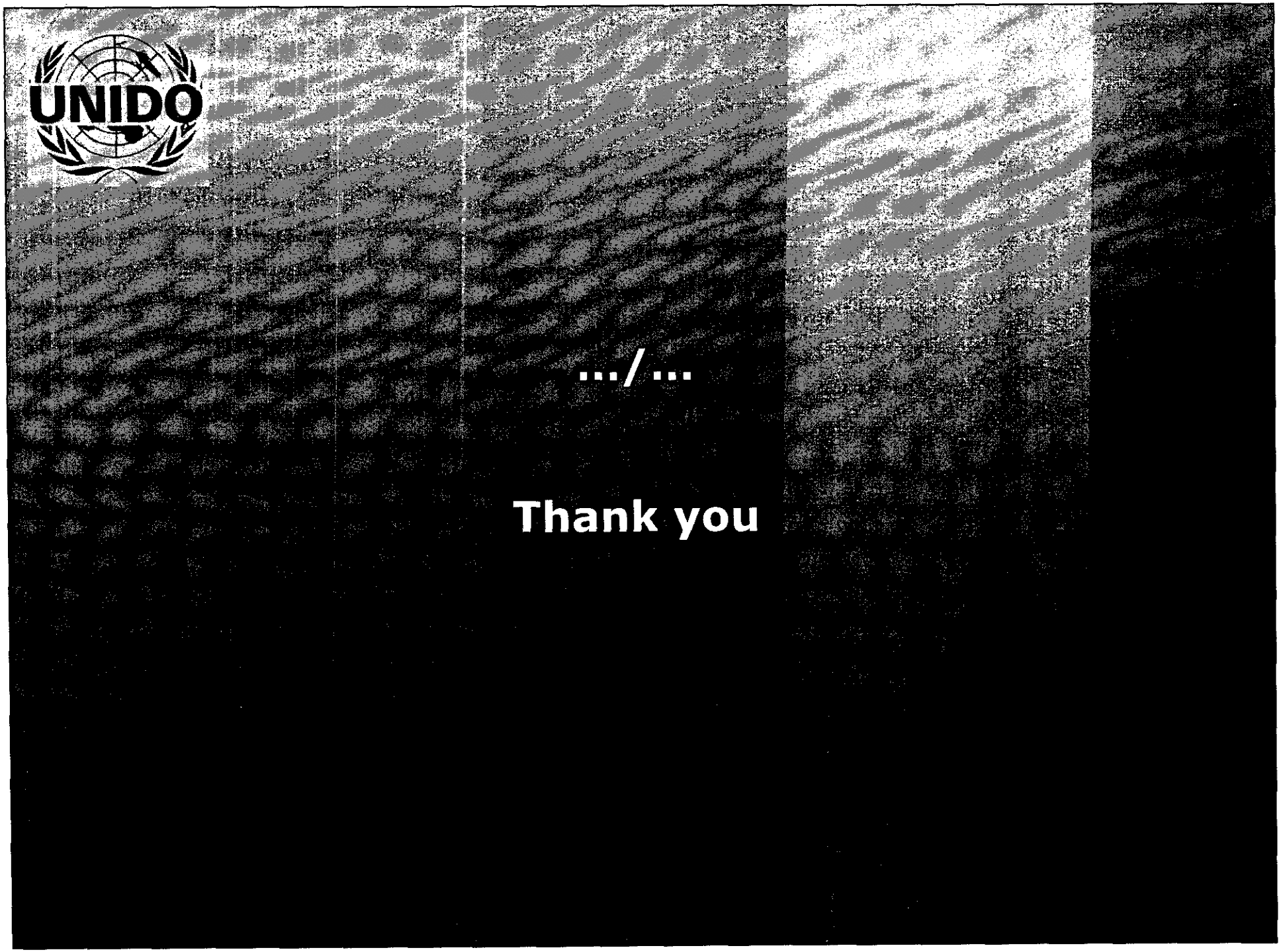
Suspended tray system







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Thank you