Hothouse

Modern **hothouse** is not always very different from the classic. Its purpose is to protect vegetables, fruits, flowers or other plants from external factors such as heat or frost. In a small farm, a **small hothouse** is in demand. There is no point in building something big for non-commercial purposes. What does an ordinary family need? Just taste fresh produce from your garden. For commercial purposes, the **hothouse** is transformed into a state-of-the-art means of earning, based on the cultivation of plant products. Success and the amount of profit depend on the actions of the business owner and his subordinates. On a production scale, all processes must be monitored very carefully. One mistake will cost you a lot of losses. This cannot be allowed. On the other hand, losing a crop for an ordinary family is also unacceptable. The **hothouse** is:

- single-slope;
- gabled;
- arched;
- teardrop-shaped;
- polygonal;
- Dutch type.

Also **hothouses** differ in type of appointment and are divided into:

- vegetables;
- floral;
- seedlings.

Of course, the **hothouse** is summer and winter. Depending on the needs, you should decide on all the characteristics and make the right decision. Experienced people know what they are talking about. For beginners it is better to use the help of a specialist to make the **greenhouse** reliable. It doesn't look like steam leaks at all, but you'll need to play around to get the microsystem inside the **hothouse** in order.

The **hothouse** also differs in the material of manufacture. Happens to:

- polyethylene film;
- cellular polycarbonate;
- spunbond;
- glass;
- reinforced polyethylene film.

A cellular polycarbonate **hothouse** is considered the best, but for various purposes it is a controversial issue. It is important to provide a good ventilation system in the **hothouse** . Otherwise, even a small **hothouse** will not be useful. Polycarbonate is used in polygonal versions. It allows you to save from solar radiation and increase the useful area of the **hothouse** .

How are **greenhouses** different from small hothouses?

Greenhouses never use artificial heating or air conditioning .

A small hothouse

Small hothouses are installed not only on the site, but also at home. First of all, these are greenhouse - structures, no more than 1.3 m high. They have no doors. To access the plants, simply remove the film from the side or top. The **small greenhouse** is easy to use for private use. It grows not only the usual vegetables or fruits. Quite often there are exotic plants. Home **greenhouse** is also suitable for bitter or hot pepper. It is too rarely grown, so a small **greenhouse** is suitable for this.

What is the difference between a Dutch **hothouse** ?

Vertical curtain system that regulates the penetration of light.

Fruiting in a **home hothouse** begins earlier and ends later. They come in the form of a pyramid, a cloche, etc. This is not the same as an open **greenhouse** . The main task during construction is to create a strong **frame of the greenhouse** . Its purpose is to save plants inside from the wind including. Of course, under the film, the **home greenhouse** is not able to maintain its condition under the action of, for example, hail. That's why they buy cellular polycarbonate.

Electric mobile agricultural machinery are used on large plots of land. Even to move between the frames of the greenhouse will need specialized equipment. This **home greenhouse** does not require anything from a person except proper care. On an industrial scale, speed is needed. If you do not provide it, then certainly large losses will come very soon.

You can make a **geothermal hothouse** with your own hands. But it is better to order it. Of the advantages we note:

- additional source of CO2;
- operated without costs;
- autonomous from external energy sources;
- **geothermal hothouse** creates a mild microclimate.

It is impossible to make at least a similar convection of an existing structure so that it looks like a **geothermal hothouse** . No greenhouse effect is comparable. This system is used on large areas over 50 sq.m.

Greenhouse frame

There are many companies in Ukraine that manufacture **greenhouse frames** . They are usually galvanized. The sizes can be chosen for any purpose. Even non-capital constructions for an **open greenhouse** should be chosen with knowledge. Usually as a covering for a framework are:

- polycarbonate;
- glass;
- film.

It is clear that the **frame of the greenhouse** is directly a skeleton. It must be made of quality materials. Since they are often placed on the street, it is necessary to protect it from corrosion. You need to choose the right load-bearing capacity. It is believed that the profile pipe, it will last longer. Much depends on its thickness and arc pitch, which should be less than 1 m.

The highest price for a **framework of a greenhouse** from an aluminum shape. In Ukraine, such

products are practically not represented, except for artisanal production. The most common is galvanized bent profile. But its price is also quite different. If you buy a profile according to state standards, its cost will be much higher. Chinese counterparts or ours, but of inferior quality metal, can be bought cheaper.

As materials for the frame are also used:

- wood;
- plastic.

There are three options for obtaining a framework:

- buy it ready;
- order in the workshop;
- do it yourself.

Its main functions are:

- maintaining the temperature inside higher;
- ensuring the rigidity of the structure;
- determining the shape of the structure;
- ensuring stability.

The choice of frame should be treated very carefully. If the cladding does not suit you, it will be cheaper to replace it. Things will be more complicated with the framework. It is better to turn to professional managers once and get your frame, equip a greenhouse or a greenhouse and enjoy the gifts of nature. Install a combined boiler at home, do not forget to take care of the **open greenhouse** and live a quiet life. Still, humanity must live in harmony with nature, eat fresh food, breathe fresh air. It can't be otherwise.

Biofuels

The biggest problem is that **biofuels** are more expensive than conventional diesel fuel (DP). In a market economy, a farmer cannot afford to use more expensive means of farming. **Biodiesel** will reduce emissions, but the cost of production will increase. This will cause demand to fall. If your products will not be bought, they can simply be thrown in the trash. In this sense, economic processes against **biofuels** . Quite another - the environmental component of the issue. But without state intervention it will be impossible to solve.

It is interesting that people gradually come to such thoughts, but so far in more developed countries. The use of **electric tractors** , other technological vehicles and mechanisms without harmful emissions must be organized everywhere. Mankind does not understand how closely related economic and environmental issues are. Even from an economic point of view, if we do not take into account the environmental consequences, we should expect large economic losses.

Today**, electric mobile agricultural machinery** is increasingly used. But it will take years to replace all the old mechanisms. Every day we spoil the lives of ourselves and our descendants. It is impossible to solve this issue at the level of an ordinary farmer.

Install **home hothouses** , use **open greenhouses** or **geothermal hothouses** . The main thing is to think and take care of nature, not profit. You will not take money with you.

Why has nature been giving us such challenges lately?

Because we behave like parasites.

Maybe it is necessary to introduce the use of drones en masse to monitor compliance with environmental legislation?

Biodiesel

Biodiesel is increasingly used in industry so as not to pollute the air. In Europe, there are even specially designed programs where farmers can afford to switch to **biofuels** almost without hindrance. In Ukraine, this issue is still difficult. There are no favorable conditions for farmers to invest their money or credit with a small interest rate and a long term. Unfortunately, **biodiesel** is not of interest to the state today. It is clear that government spending will increase significantly if old **agricultural electrical appliances** are allowed to be disposed of free of charge. But the open program together with the banking system must appear for purchase or exchange for a new one.

Biodiesel is based on vegetable oils and animal fats. This is a completely safe **biofuel** for humans and the environment. It is created from renewable resources, unlike usual. Represents methyl ether. Created from:

- algae;
- palm oil;
- Brazil nuts;
- olives;
- rapeseed;
- poppies, etc.

It is clear that it is best to extract **biofuels** from algae. These raw materials are growing rapidly and are rarely used in such large-scale projects. There are some problems with temperature fluctuations, but nothing critical. Here are some benefits of **biodiesel** :

- low CO2emissions;
- no unpleasant odor;
- soot is reduced by 50%;
- decomposes by 90% in three weeks;
- virtually no toxic emissions.

Biodiesel can be produced not only in production conditions. On a conventional farm, you can make **biofuel** if you buy a mobile unit worth about 150,000 USD. But its capacity is about 200 tons per month.

Usually**, biodiesel** is used by large corporations, which can afford to buy such equipment right here and right now, to find **biofuels** . In the conditions of life of our farmers it is rather difficult to speak about mass purchase of **biodiesel** .

Electric tractor

Today, electric transport will not surprise anyone. Gradually, electric cars are displacing ordinary cars from the streets of cities and highways in the world. Agriculture was not left out either. New **electric mobile agricultural machinery** is starting to impress. There are already prototypes of self-charging **electric tractors** with solar panels. First of all, it is really profitable and with such a technique the future is without a doubt.

So far, we are seeing only the beginning, when **agricultural electrical engineering** is gradually going to work. There is still a lot to do to completely replace the old equipment with new ones.

Consider the advantages of an **electric tractor** :

- environmentally friendly;
- profitable;
- new.

The main disadvantage that is today, we call the small capacity of the battery. Not every **electric tractor** can work for more than four hours. It is convenient for the worker - it is possible to have a rest. But in terms of labor organization, the electric tractor can not yet be compared with the usual.

Another thing, when today began to produce **electric tractors** , working on the program without human intervention. Then the owner saves on human labor, produces in turn agricultural **electrical equipment** , while the other is charged and gets almost a working schedule of 24 hours a day.