

bulletin

CHRISTIAENS GROUP



Rheinland Champignon, Germany

Despite the crisis in Europe, Christiaens had plenty opportunity to continue growing. This is partly due to the worldwide operations of our organization.

Our organization is evolving to serve you even better than before. There are courses mushroom growing and composting given for all our employees.

To increase the customer satisfaction we have given a questionnaire in the past year among our customers and prospects to determine where we stand in the mushroom and composting business. The respondents are in general very satisfied about the Christiaens Group.

Beside the above mentioned course we are still very busy with innovation. You can read more about the new state of the art Phase 2/3 tunnel facility we have completed in the summer of 2011 at Bio Fungi in Hungary. During this development we concentrated on: composting efficiency, energy efficiency, hygienic and multi-functionality but still also simplicity.

Currently we're also finishing an advanced turn-key Phase 1 project for the company Dohme in Germany. The focus is particularly on environmental aspects, the mixing of the compost and efficiency. Efficiency is a must to survive in this business. These above mentioned projects are great examples of efficiency.

In recent years, Christiaens is dedicated to complete projects from engineering till completion of the project. Because the Christiaens Group contains Construction, Machines and Controls it makes us able to realise projects in a short period of time. Because of the optimal integration you can save a lot of construction time. In other words, you can start earlier to recoup your investments.

Of course you can still contact us for machinery, climate control, air conditioning, shelving, lorries, etc.

We also invite you to take a look at our website with various information about our company, our completed projects, contact details, etc.: www.christiaens.com

bulletin

CHRISTIAENS GROUP



Christiaens Group



Champignonkwekerij Cox

[The Netherlands]



Champignonkwekerij Cox BV grows mushrooms for the canning industry for several years. To make the former investment in the sorting and processing line more efficient, Cox decided to expand their facility with another 8 growing rooms. During 2011 we have doubled the mushroom farm and in 2012 the farm expansion produced the first mushrooms. The farm counts nowadays 16 growing rooms of 1382m² each and is able to produce about 200 tons of mushrooms per week.

The farm has double harvesting systems which will work simultaneously. With the expansion of the central energy systems we have added a heat recovery on the chilling system. Heat from the chiller is put back into the heating system and is added up by the hot water boiler if needed.

Before making the decision to work with the Christiaens Group director Jos Cox visited several farms. "We were very satisfied about the Christiaens Group in the previous project so it was no discussion to go ahead with them for the extension as well."



Mycolim

[The Netherlands]



Limgroup BV is a consortium of agricultural research companies which is specialised in the breeding of new plant and mushroom varieties. It's daughter company Mycolim, established in 2009, focusses on the improvement of the commercial growth of mushrooms and the development of new button mushroom varieties. For these purposes a research farm with a series of specialised, small-scaled growing rooms was planned, of which some have even less than 20 m³ growing surface.

Mycolim: We were convinced to grant the construction of this farm as a turn-key project to Christiaens because of their high level of expertise and pragmatic approach in translating their knowledge of large-scaled mushroom farms into such a specialised farm. Off course, the fact that the headquarters of both companies are located just a few kilometers apart aided the short communication lines.

The main challenge was to have the growing rooms to operate in a similar way as in a commercial mushroom farm. The crux was to downscale standard growing rooms whilst maintaining the climate conditions constant and homogenous. A further challenge was that many different mushroom strains could be grown within the same room, without cross contamination. Only six months after the first building activities commenced, the experiments started at this modern research farm. www.mycolim.com



mycolim[®]
THE MUSHROOM RESEARCH COMPANY



Walkro Blitterswijck

[The Netherlands]

The Walkro company is specialised in making phase 3 compost, and has on several locations separate facilities, spread over several countries. One of them is Walkro Blitterswijck, which is a facility located in the Netherlands, located near the South-East border of the Netherlands with Germany.

Walkro Blitterswijck is recently taken over by the Monaghan Group. This is one of the biggest compost and mushroom producers in the world. Since a very long time the Christiaens Group and Walkro are working together and joining forces. Recently Walkro Blitterswijck improved and expanded their existing phase 2/3 tunnels with several machines without building extra tunnels. The goal was to get with all their 50 tunnels in 1 building a more optimized filling schedule than they already had, and on top of that more flexibility for filling, refilling and emptying of all there tunnels.

At this huge phase 2/3 building there are two rows of tunnels with three working halls! The scope of delivery of the Christiaens Group was a unique custom made tunnel-emptying-winch for re-tunneling, another tunnel-emptying winch for filling trucks, several (very long) conveyors, 2 big spawn applicators, all the electric installation and new tunnel-doors including door-frames.

Because the very high demand for compost, the tight schedule which Walkro has with their clients, and the short delivery time, the Christiaens Group managed again to make customized machines in the nick of time, exactly according to the client's wishes. The end-result is a very satisfied customer.

More information about the Walkro Group can be found on: www.walkro.nl



Moni

[Belgium]

Moni is part of Elesco. Elesco is a processing company for fresh sliced products like lettuce and mushrooms. For this company they produce partly their own mushrooms in the farm named Moni. The mushroom farm used to be an old farm with plastic sheds. Due to inefficient work and high energy costs Elesco decided to renovate the mushroom farm. The sheds were demolished and replaced by a new panel mushroom farm build against the existing working corridor which was completely build by the Christiaens Group.

The farm now consists out of 5 growing rooms of 820m² each for growing white mushrooms and 2 growing rooms of 410m² each for growing pleurotus. The farm works with semi hydraulic lorries to increase there harvesting efficiency.

The technical installation is equipped with a heating pump to be able to keep the energy costs low.



Dohme Pilzzucht

[Germany]



The company Dohme Pilzzucht GmbH is located in Tietzow – Germany, nearby Berlin and is a part of Havelland-Champignon. Dohme already made his own phase 2/3 compost in the past and was buying phase 1 compost somewhere else.

To be able to produce the complete cycle of compost locally, the decision was made to build a state-of-the-art phase 1 facility. The project includes 7 bunkers with an overhead-filling-system and a capacity of 700Ton compost each bunker.

The technical installation is equipped with several features for an optimal process. Some building details are changed to the latest demands. Last but not least, the way of mixing the compost before it enters the bunkers is improved to achieve the best mix of basic materials without losing the structure. With a mixing drum edit to the filling line, the customer is able to handle the straw and compost as required.

All together this means a big benefit for choosing 1 partner for this project, which lead to a most efficient and integrated project in all its facets. Because of the experience of the Christiaens Group, the flexibility of improving existing building techniques and therefore raising the bar to a new level, the benefit for the client to be able of buying everything at one company, add to that the good relationship and trust, the Christiaens Group was selected as turn-key supplier.

Turn-key means in this case that everything is included in the order, from the pipes underneath the concrete floor till the roof, and everything in between. Because of the high and specific demands of Dohme, this project will be a bench mark for the Christiaens Group for the future. Therefore the Christiaens Group is very proud they had the opportunity to build this beautiful turn-key project together with Dohme.

For more information please visit: www.weser-champignon.de





Boglarchamp

[Romania]



Boglarchamp is established in 2002 and is the biggest grower in the north-west part of Romania. In the beginning Boglarchamp produced mushrooms in bags and on trays.

Boglarchamp is continuously expanding in production capacities and improvement of technologies. The production is done on two different locations. Their last expansion is done in 2011. The Christiaens Group build 9 growing rooms of 820m² each. The farm was build completely turn-key. This means that even the steel construction, sandwich panels and roofing were delivered from The Netherlands.

Due to our decades of experience and improving the steel construction in combination with using sandwich panels, the multi-functionality makes it possible to build in a competitive way. Furthermore our proven technology will eliminate risks. This guarantees the highest standard in building mushroom farms.

Boglarchamp is the first mushroom farm in Romania which uses all facettes of a Christiaens turn-key project such as: engineering, the complete building, shelving, climatisation and machineries. Even the installation and start-up assistance are done by the Christiaens Group. Pre-designing the logistic lay-out of this farm from scratch results in the most efficient and practical working area. Last but not least, the complete farm has been designed to handle Phase 3 compost in bulk. This makes it possible to fill and empty the growing rooms automatically.

On the website www.boglarchamp.ro you can find additional information.





Bio-Fungi

[Hungary]

Bio-Fungi is one of the leading companies in the south east of Europe. Bio-Fungi has a mushroom farm and a commercial composting yard. Last year Bio-Fungi celebrated their 10 years anniversary. Since the beginning Bio-Fungi and Christiaens are solid partners and we received many orders from Bio-Fungi.

In 2010 Bio-Fungi decided to build a new 'state of the art' facility for producing Phase 2 and 3 compost. Christiaens was the partner to build this new facility. Together with input of Bio-Fungi we have upgraded the whole tunnel concept to a higher level. Focus during the design stage was mainly on hygiene, energy efficiency, work efficiency and last but not least composting efficiency.

For hygiene we have changed b.e.:

- Easier cleaning of the mezzanine, floors, drainage, building and machines
- No drip trays inside the tunnel
- Supply of the washed and filtered air towards the technical installation

Energy we will save by b.e.:

- Energy efficient fans
- Efficient adiabatic cooling system
- Efficient water cooled cooling system
- Bigger filter frames
- Cooling coils with less resistance
- Optimised computer control
- Much more open grids

Work efficiency is achieved by b.e.:

- Remote control of the revolving doors and machineries
- Easy to clean the machineries and building
- Fast filling (up to over 300 tons per hour)
- Less spillage in the installation





A higher compost efficiency is achieved by an optimal design of the airhandling, control and tunnel box.

We would like to explain more about above mentioned features of the facility. Furthermore the facility is equipped with a sophisticated truck filling station of which a weighing bridge is right underneath the truck. This makes this operation more efficient as well.

The old tunnel facility of Bio-Fungi is made out of gas concrete panels. The reason why Bio-Fungi chose for a panel building are obviously. Panels have a much better insulation than gas concrete, the maintenance costs are less and the stainless steel surface on the inside is smoother and is therefore more hygienic.

Recently Bio-Fungi gave us the order for expanding the compost facility as well as their growing rooms.

For more information about Bio-Fungi go to: www.biofungi.hu





Meadow Mushrooms

[New-Zealand]



Formed in 1970 by Philip Burdon and Roger Giles as a private company, Meadow Mushrooms Ltd is today the largest producer of mushrooms in NZ and one of the top two in Australasia. The head office is based at its original site in Prebbleton, 20 minutes south of Christchurch New Zealand. Meadow Mushrooms Ltd. employs approx 500 people nationwide, with more developments in the pipeline.

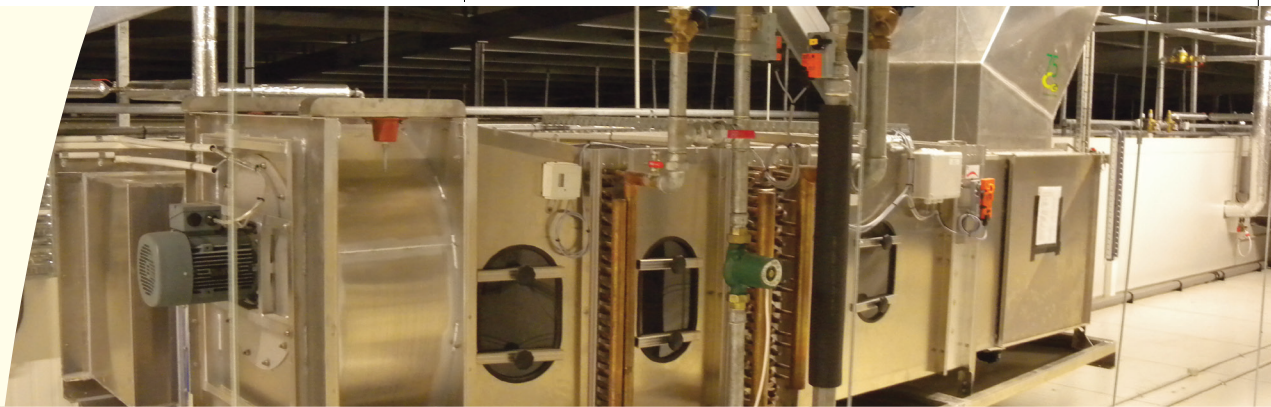
It is the only grower in New Zealand with full vertical integration from the production of spawn through to the dispatch to market and has a diverse range of products all with the common theme of a mushroom base.

Meadow Mushrooms Ltd today consists of Meadow Mushrooms in Prebbleton (two sites), Miranda Laboratories where spawn is produced and Emma Foods where mushrooms are processed for canning and dehydration. Giggs Farm is another location of Meadow Mushrooms, where the essential compost is produced. This is situated just south of Christchurch at Dunsandel. Substantial investments have been made in the upgrading and expansion of facilities across Meadow Mushrooms Ltd. This has involved the introduction of the latest technology and computerised growing systems to both farms, and the building and utilisation of new state of the art aerated compost yards for the provision of compost to the two farms (most recently in Christchurch with a \$45 million dollar expansion). Further innovations continue to ensure that Meadow Mushrooms Ltd continues to offer the best possible product to consumers.

In addition to these facility changes, there have been significant expansions of the product range offered and many developments in packaging. The growing rooms now produce on average 147 tonne a week. The product mix is dominated by the market favourite, the White Button mushroom. In addition to this are the increasingly more popular varieties - Portobellos (large open brown mushrooms) and Swiss Browns (brown buttons).

The full range of fresh products are sold domestically with a small portion being exported. They are dispatched pre-packaged for convenience, as well as in bulk loose trays containing three or four kilo's dependent on the product.





Over the years Meadow Mushrooms Ltd has become a well known brand nationally. Heavy branded promotions began in 1997 as a means to drive growth in the market. The product range under this 'Meadows' brand extends beyond the fresh category into canned mushrooms under the 'Emma' brand and prepared frozen foods such as golden and garlic crumbed mushrooms.

Meadow Mushrooms Ltd has invested significantly in it's development particularly in recent years, and is continuing to do so. Keep an eye on the website for further developments and updates!

Reference:

"Christiaens supplied us with 5 phase-1 bunkers, 9 phase-2/3 tunnels and 24 growing rooms and all of the controls and machinery to go with it, and managed to do it on time, and on budget. Construction of the compost yard started in January 2010 and was completed in early November. Growing rooms were started about 2 months later and were completed in January 2011, and we were very pleased to be able to produce the first mushrooms a few weeks later in February that year. Christiaens supervisors were excellent throughout the project, and were a key part of achieving completion in the required timeframe. We are very happy with both facilities and they're working well."

This project was engineered to be earthquake resistant. Recently these buildings were heavily tested by several major earthquakes. At one of these earthquakes the epic centre was only a mile away from the plant. There was no damage at all.

www.meadowmushrooms.co.nz





Phillips

[USA]



Warwick is a facility of Phillips Mushrooms in Maryland, USA. In 2008 they build 25 growing rooms of 906m² (See also Bulletin nr. 10). After a successful period with good and efficient productions they decided to expand the facility once more. In 2011 a new building was started on the same location which contains 16 growing rooms of the same size.

This new building is also equipped with the same set of machineries to ensure an ongoing business. Also the new facility is equipped with ammonia chilling to save energy on the chilling part.

When you want to know about Phillips Mushrooms please take a look at their website: www.phillipsmushrooms.com



Champs Mushroom

[Canada]



Champs mushrooms keeps expanding. After getting the order for the Trademark mushroom farm we received an order for expansion of Mycelco. In 2011 Champs purchased the farm and composting yard of Mountain View mushrooms in Abbotsford, Canada. A few months later Christiaens was given the order to expand this composting yard with another 4 tunnels. For more information about Champs you can go to the website:

www.champsmushrooms.ca

At the moment we have orders for renovation of the airhandling systems at 2 other farms of the Champs Group as well as a new head filler.





All Seasons

[Canada]



In 2010 Christiaens received the order for a new Phase 2/3 facility for All Seasons Mushrooms in Canada. This expansion is build near one of the coldest locations in the world (-50 C). The mushroom farm already had Phase 2/3 tunnels which had to be updated. The old tunnels were build in the same building as the growing rooms. To improve the system and to gain more space in the existing building All Seasons decided to make a new building for doing the Phase 2/3.

In the building are several features for better hygiene and higher energy efficiency. We would like to explain more about these new developments.

For more information about All Seasons Mushrooms you can go to their website: www.allseasonsmushrooms.com



Highveld Mushrooms

[South Africa]



Highveld mushrooms is located at Bryanston – South Africa. This company has it's own phase 1 facility, has also a phase 2 and phase 3 compost facility and they have their growing rooms at the same location.

On another location they have also the farm called Meadow. To be able to make enough compost for all the farms, the need for phase 3 compost was increased during time. Highveld already build with the Christiaens Group in the past. Highveld is the company with the most modern compost facility in South Africa.

The previous compost project included 6 tunnels. (see bulletin nr. 1) For this latest project the tunnel facility was expand with another 3 tunnels and a compost-truck-filling-station with working hall. The tunnels have on both sides a separate working hall. Each tunnel can hold approximately a input of 200 Tons of phase 1 substrate.

For more information please visit: www.highveldmushrooms.co.za





Christiaens Group

| the power of combined experience |

Projects in progress:

Dohme, Germany	7 Phase 1 bunkers
Rheinland Champignon, Germany	10 growing rooms
Jacobs Champignons, Netherlands	6 growing rooms
Donkers, Netherlands	2 growing rooms
Prochamp, Netherlands	Machineries 11 Phase 2/3 tunnels
Xillion, Hungary	14 growing rooms
Faisal Sultan Al Essa Estd: Al Faisaliya Farms Kuwait	2 bunkers, 1 tunnel and 8 growing rooms
Biga, Armenia	6 growing rooms
Ecofresh, United Arabic Emirates	6 growing rooms
Bio Fungi, Hungary	4 growing rooms
Bio Fungi, Hungary	3 Phase 2/3 tunnels
Champinter, Spain	Mixing line for Phase 1
Gulf Mushrooms, Oman	Composting equipment
Country mushrooms, South Africa	9 growing rooms and machinery
All Seasons, Canada	3 bunkers
Four season, Canada	20 airhandling units and controls
Infinity, Canada	24 airhandling units and controls
Mikofood, Ukraine	Machinery for Phase 1 and 2
Highveld, South Africa	Machinery for Phase 1 and 2

| Christiaens Group |

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