



# Commercial uses of fungi - what fungi do for us



Stone-washed jeans



Keeping the fizz in fizzy drinks



Bus running on biofuel

### Useful web sites

- [www.fungi4schools.org](http://www.fungi4schools.org)
- [www.britmycolsoc.org.uk](http://www.britmycolsoc.org.uk)
- [www.emlab.com](http://www.emlab.com)
- [www.bugs.bio.usyd.edu.au](http://www.bugs.bio.usyd.edu.au)
- [www.misac.org.uk](http://www.misac.org.uk)
- [www.austincc.edu](http://www.austincc.edu)

### Sponsor of the 2018 competition



British Mycological Society promoting fungal science

Closing date 23rd February 2018

### Aim of the competition

To increase an understanding of the wide range of commercial uses of fungi in everyday life.

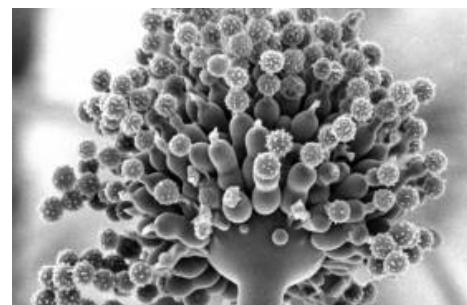
### Object of the competition

Your task is to produce information for a new teenagers' web site called '*What fungi do for us*'.

### Introduction

Fungi range from the familiar mushrooms we see in the marketplace to microscopic moulds and yeasts. Many have been used as foods and in traditional medicines for centuries. Nowadays we have started to realise the enormous economic and environmental potential of fungal processes, new products and applications. One recent estimate of the commercial value of fungal products was as much as £380,000 million worldwide.

Fungi are important in food production, from mushroom cultivation to the production of



*Aspergillus niger* British Mycological Society

cheese, *Quorn* and farm animal feeds. Fungal enzymes are produced commercially for the breakdown of wood pulp to make paper, in laundry detergents, for pre-digesting baby food and 'stone-washing' jeans. Fermentation products of fungi include wine & beer, bread and soy sauce; fungi keep the fizz in fizzy drinks. They produce biofuel and a large range of medical drugs. Fungi are also used in bioremediation to rectify oil spillages and radioactive waste; they process coffee, make vitamins and are employed as biocontrol agents.

### Format of entry

- You should produce 2 pages for the web site.
- These must be produced on paper as hard copy.
- Your entry may be produced either by hand or computer.
- You must submit one A3 sheet or two A4 pages *secured side by side, with adhesive tape*.
- Only use one side of the paper.

**On the first half** of the sheet, provide an overview of the extraordinary range of fungal activities of commercial importance.

**On the other half** of the sheet, choose **one** commercial activity for which a **named** fungus is responsible and describe the scientific details of

the process. Some examples have been provided as guidance in the introduction but you can consider others.

Use your own words to produce a factual and informative account which may be illustrated with photographs, diagrams and data. Don't forget that it is for a web page for teenagers so it should have an appealing design and be interesting to read.

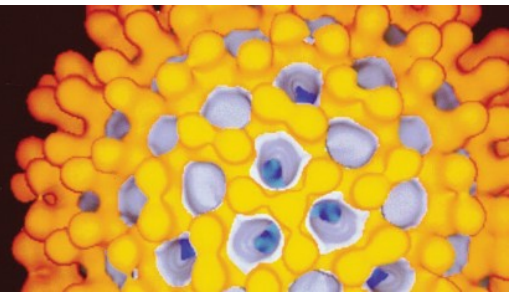
### Important

Use the scientific name of the fungus, remembering that the first name (Genus) begins with an upper-case letter and the second name (species) has a lower-case initial letter (e.g. *Saccharomyces cerevisiae*). Use an italic font for the scientific name, or underline it, if your entry is hand written.

### Prizes

Schools	1st £250	2nd £125	3rd £70
Students	1st £100	2nd £50	3rd £25

A certificate will be awarded to each student submitting an entry of scientific merit. Each school will also receive some microbiological teaching materials. The results will be published on [www.misac.org.uk](http://www.misac.org.uk) where winning entries and a report of the 2018 competition can be viewed. Prize winning entries will appear on the British Mycological Society web site educational pages.



Promoting microbiology in schools and colleges since 1969

### Rules

- Judging will be based on two entry groups: Key Stage 3 (S1/2) and Key Stage 4 (S3/4).
- Each entry must be submitted on paper, on **one A3 sheet** (or two A4 sheets taped together) using one side of the paper only, and may be produced either by hand or by computer.
- Entries may be created either by individuals or groups of no more than 4 students.
- A maximum of 10 entries per school in each entry group is permitted.
- Account will be taken of originality, presentation and effectiveness in communicating with the intended audience.
- Only entries that conform to the competition rules and show scientific merit will be considered; note the requirements and consider the suggestions given on the front page.
- Evidence of plagiarism, such as downloading text directly from web sites without modification and interpretation, will result in disqualification. (MiSAC recommends only reputable sites for research; see [www.open.ac.uk/webguide](http://www.open.ac.uk/webguide) for tips on using the internet.)
- Each entry must be clearly labelled on the back with the name and address of the school, the teacher's name, the full name of each contributing student and the entry group, i.e. Key Stage 3 or S1/2 and Key Stage 4 or S3/4.
- Entries cannot be returned and may be used for promotional purposes by MiSAC and the competition sponsor.
- **Closing date 23rd February 2018.**

### Check list for teachers before submitting entries

- |                              |     |
|------------------------------|-----|
| • Students' name/s on entry? | [ ] |
| • School name on entry?      | [ ] |
| • School address on entry?   | [ ] |
| • Teacher's name on entry?   | [ ] |
| • Key stage on entry?        | [ ] |
| • Entry form completed?      | [ ] |

please tick

Sponsor of the 2018 competition



British Mycological Society promoting fungal science

### Entry form \*

Name of teacher: .....

Tel no: .....

Email:.....

### Name and address of school

.....

.....

.....

### KS3, S1/2 entry group

Name(s) of student(s)

- 1 .....
- 2 .....
- 3 .....
- 4 .....
- 5 .....
- 6 .....
- 7 .....
- 8 .....
- 9 .....
- 10 .....

### KS4, S3/4 entry group

Name(s) of student(s)

- 1 .....
- 2 .....
- 3 .....
- 4 .....
- 5 .....
- 6 .....
- 7 .....
- 8 .....
- 9 .....
- 10 .....

### How did you learn of the competition? *Please tick*

- [ ] MiSAC web site [ ] BMS web site [ ] Mailing to school [ ] Personal mailing [ ] ASE conference [ ] Other .....

**Don't forget to keep a copy of the rules and entry form!**

*\* Personal data for use only in connection with the MiSAC annual competition*