

LIST OF BIOLOGICS SUBSTANCE GENERALLY RECOGNISED AS SAFE

Microorganisms used as probiotics in animal diets and are suitable for use in animal fed	
Aspergillus	<i>oryzae</i> <i>niger</i>
Bacillus	<i>amyloliquefaciens</i> <i>toyonensis</i> <i>cereus</i> <i>coagulans</i> <i>licheniformis</i> <i>megaterium</i> <i>mesentericus</i> <i>polymyxa</i> <i>subtilis</i> <i>lentus</i> <i>pumilus</i>
Bacteriodes	<i>amylophilus</i> <i>capillosus</i> <i>ruminocola</i> <i>suis</i>
Brevibacillus	<i>laterosporus</i>
Bifidobacterium	<i>adolescentis</i> <i>animalis</i> <i>bifidum</i> <i>bifidus</i> <i>thermophilus</i> <i>longum</i> <i>pseudolongum</i> <i>infantis</i> <i>lactis</i>
Candida	<i>pintolepesii</i>
Clostridium	<i>butyricum</i>
Corynebacterium	<i>ammoniagenes</i> <i>casei</i> <i>flavescens</i> <i>variabile</i>
Escherichia	<i>coli</i>
Enterococcus	<i>faecium</i>

<i>cremoris</i> <i>diacetylactis</i> <i>intermedius</i> <i>lactis</i> <i>thermophilus</i> <i>faecalis</i>
Lactobacillus <i>thermophilus</i> <i>acidophilus</i> <i>brevis</i> <i>buchneri</i> <i>bulgaricus</i> <i>casei</i> <i>cellobiosus</i> <i>curvatus</i> <i>delbrueckii subspecies bulgaricus</i> <i>farciminis</i> <i>fermentum</i> <i>helveticus</i> <i>jensenii</i> <i>paracasei</i> <i>plantarum</i> <i>reuterii</i> <i>rhamnosus</i> <i>lactis</i> <i>salivarius</i> <i>sobrius</i> <i>gallinarum</i>
Lactococcus <i>lactis</i>
Leuconostoc <i>mesenteriodes</i>
Megasphaera <i>elsdenii</i>
Pediococcus <i>acidilactici</i> <i>cerevisiae(damnosus)</i> <i>parvulus</i> <i>pentosaceus</i>
Prevotella <i>shermanii</i> <i>freudenreichii</i> <i>acidipropionici</i> <i>jensenii</i>
Propionibacterium <i>acidpropionici</i> <i>freudenreichii</i> <i>shermanii</i>
Rhodopseudomonas

	<i>palsustria</i>
Rhizopus	<i>oryzae</i> <i>microsporus</i> <i>oligosporus</i> <i>stolonifer</i>
Saccharomyces	<i>bourlrdii</i> <i>cerevisiae</i> <i>servisia</i>
Streptococcus	<i>cremoris</i> <i>diacetyllactis</i> <i>faecalis</i> <i>faecium</i> <i>gallolyticus</i> <i>intermedius</i> <i>salivarius subsp. thermophilus</i> <i>bovis</i> <i>lactis</i>
Yeast	<i>Debaryomyces</i> <i>Galactomyces</i> <i>Hanseniaspora</i> <i>Hansenula</i> <i>Isaatchenkia</i> <i>Pichia</i>
Fungal	<i>Geotrichum</i> <i>Penicillium</i> <i>Aspergillus</i>

Streptococcus=Enterococcus

Note:

- 1 Bacterial starter cultures in general more than 10^8 CFU/g or CFU/ml are added to the fermentation substrate and bring about desirable metabolic reactions
- 2 Yeast starter culture in general more than 10^8 CFU/g or CFU/ml are added to bring about a desirable metabolic reaction
- 3 Fungal starter culture in general more than 10^8 CFU/g or CFU/ml are added to bring about a desirable metabolic reaction

Reference:

- 1 Food and Agriculture Organization of the United Nations: FAO Animal Production and Health, Probiotic in Animal Nutrition
- 2 Direct-fed Microbial, Enzyme & Forage Additive Compendium: The Regulatory Environment
- 3 Food and Drug Administration , Center for Veterinary Medicine

4 *The use of probiotics in animal nutrition, Journal Prob Health 2015, 3:2*

5 Food fermentation: microorganisms with technological beneficial use, International Journal of Food Microbiology, 2012, 154:87-97