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An MHRD Project under its National Mission on Education through ICT (NME-ICT)

Subject: Food Technology

Production of Courseware
e-Content for Post Graduate Courses



Paper No. : 03 Food Microbiology
Module : 05 Intrinsic factors affecting microbial growth and survival in foods

ज्ञान-विज्ञान-विमुक्तये

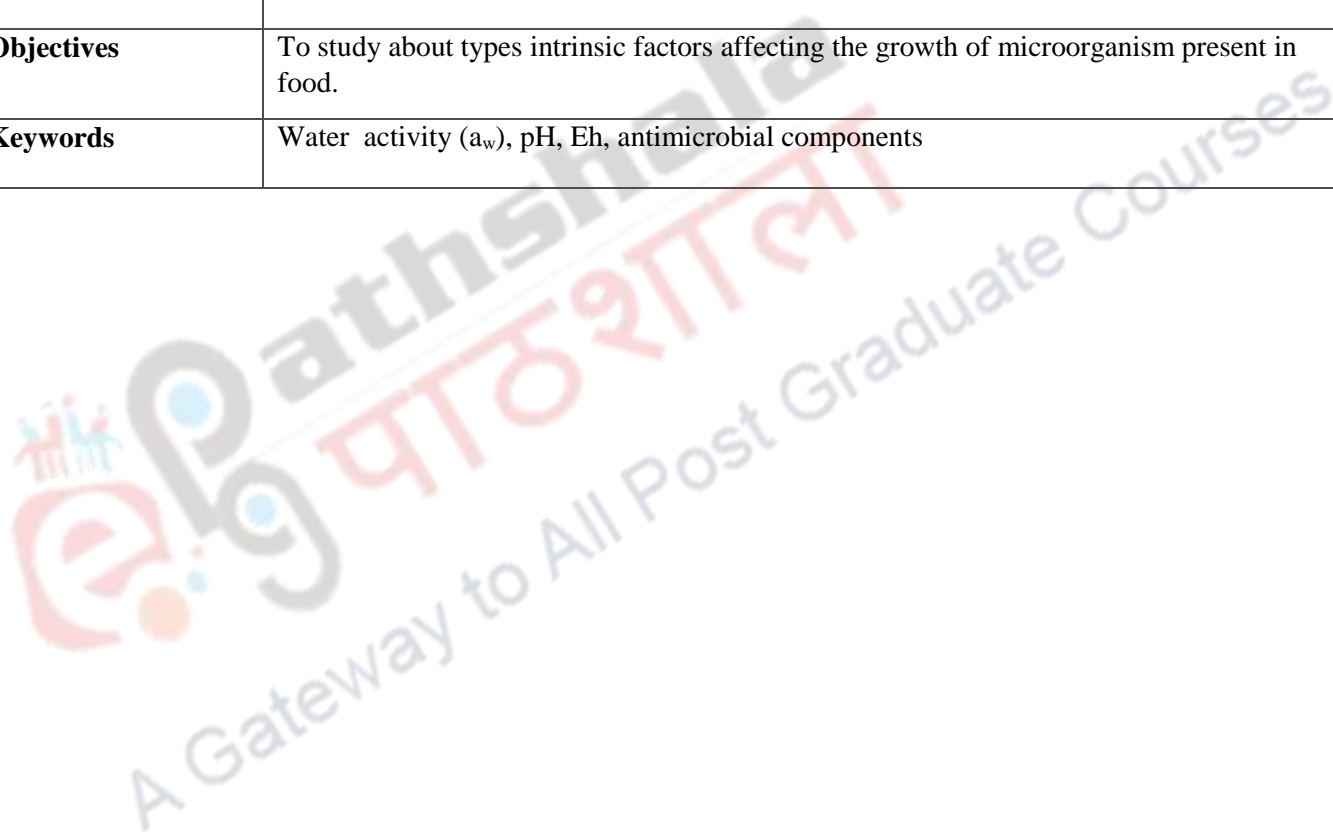
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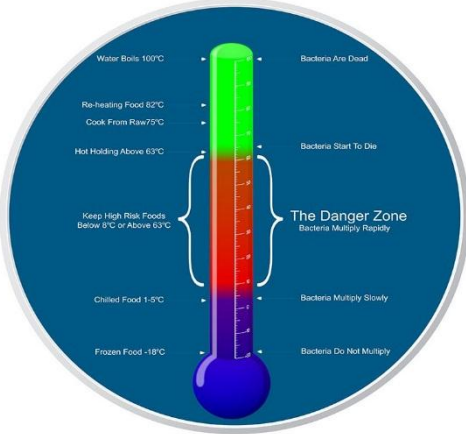
Description of Module	
Subject Name	Food Technology
Paper Name	03 Food Microbiology
Module Name/Title	Intrinsic factors affecting microbial growth and survival in foods
Module Id	FT/FM/05
Pre-requisites	Types of intrinsic factors and their effects on microbial growth
Objectives	To study about types intrinsic factors affecting the growth of microorganism present in food.
Keywords	Water activity (a_w), pH, Eh, antimicrobial components



Glossary

Starting Character	Term	Definition	Related Term
I	Intrinsic factors	Intrinsic factors are an inherent part of the food or are characteristic of the food itself.	Internal factors
M	Microbial antagonism	A property of microorganisms which enables one microorganism to kill, injure or inhibit the growth of other microorganism.	Microbial interference
	Mesophiles	Those that grow well between 20 ⁰ C and 45 ⁰ C with optima between 30 ⁰ C and 40 ⁰ C.	
P	Psychrotrophs	Those organisms that grow well at or below 7 ⁰ C and have their optimum between 20 ⁰ C and 30 ⁰ C.	
T	Thermophiles	Able to grow well at and above 45 ⁰ C with optima between 55 ⁰ C and 65 ⁰ C.	
W	Water activity	The water activity (aw) represents the ratio of the water vapour pressure of the food to the water vapour pressure of pure water under the same conditions.	

Did you know??

Description	Image	Source
<p>The natural covering of some foods provides excellent protection against the entry and subsequent damage by spoilage organisms.</p> <p>For examples, such protective structures are the skin (fruits, vegetables, tomatoes and bananas).</p>		<p>commons.wikimedia.org</p>
<p>2-hour rule!!!!</p> <p>Pathogenic bacteria can grow in the "Danger Zone" (between 5°C and 60°C).</p> <p>Therefore, discard any moist (perishable) foods left at room temperature longer than 2 hours.</p> <p>If temperatures are above 33°C, discard food after 1 hour!!!!!!</p>		<p>www.fda.gov/ http://www.thefoodsafety.system.com/AutoImage.aspx?id=6</p>

a. References

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b. Link to Wikipedia, Blogs, Link to Similar Topic

Web links
http://www.fda.gov/Food/FoodScienceResearch/SafePracticesforFoodProcesses/ucm094145.htm
http://www.fda.gov/Food/FoodScienceResearch/SafePracticesforFoodProcesses/ucm094145.htm
http://www.angrau.ac.in/media/9301/fdim142.pdf
http://www.docstoc.com/docs/121607109/Factors-that-influence-microbial-growth
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