Mosquito situation and problems on campus and in daily life

During the warm months at Shandong Normal University, there are especially many mosquitoes in the dormitories, campus green spaces, and after rain, which often affect sleep, study, and outdoor activities.
The frequent bites and buzzing of mosquitoes at night disrupt your rest, sometimes leading to insomnia, distraction, depression, and even itching and swelling of the body.

Current mosquito repellent products and experiences

Commonly used electronic plug-in mosquito repellents, mosquito coils, mosquito repellent sprays, and occasionally mosquito repellent patches / bracelets.
What we like: Obvious short-term effects and easy to use.
Dissatisfactions: Strong chemical smell, possible discomfort or health concerns; some products are greasy, sticky or have unstable effects; concerns about long-term environmental impact.

Preference for mosquito repellent products

People tend to choose natural or organic ingredients because they are healthy and safe, have mild smells and are environmentally friendly.
While still emphasizing effectiveness, the ideal product needs to be both natural and potent.

Ideal mosquito repellent features

Natural and non- toxic , safe for skin contact, odorless or lightly scented, lasting 8-12 hours.
Safe for indoor use, does not affect air quality, environmentally friendly and biodegradable packaging, convenient and easy to use, and affordable.

Suggestions for schools and dormitories

Strengthen mosquito prevention in public areas (environmentally friendly spraying, mosquito traps, ultraviolet /ultrasonic devices).
Install mosquito screens, provide mosquito nets, and natural mosquito repellents.
Clean up stagnant water, maintain water features, and reduce breeding grounds.
Carry out mosquito prevention education and encourage students to report areas where mosquitoes are prevalent.

1. Frequency of mosquitoes during outdoor activities

Mosquitoes are most active in spring and summer (warmer months), especially when humidity is high.

Mosquitoes are found in high densities in forests and wooded areas, especially near streams, rivers and lakes, as water is an ideal breeding ground.

When crossing dense vegetation or low-lying wetlands, you will often be surrounded by groups of them, with peak times in the early morning and evening.

Camping trips can be troublesome, especially when camping near water sources. Although the scenery is beautiful, there are many mosquitoes.

There are fewer mosquitoes when running or cycling in open fields and swamps, but there are still many mosquitoes in places with stagnant water or dense vegetation.

Choosing well-maintained trails and open terrain can help reduce mosquitoes, as wind and sunlight inhibit their activity.

2. The most annoying mosquito experience

Last summer, I went camping in the mountains for the weekend and chose a campsite near a creek.

The scenery is pleasant at first, surrounded by trees and peaceful water views; however, mosquitoes swarm in after dark.

Even though I brought common mosquito repellents such as spray and mosquito coils, mosquitoes still landed on exposed skin and bit me through clothes.

Mosquito coils are not very effective, the spray has a short effect and needs to be re-sprayed every hour.

The bonfire failed to repel mosquitoes, and after it was extinguished, swarms of mosquitoes buzzed around.

They were beating and chasing people inside and outside the tent all night long, and the fabric of my sleeping bag was bitten through. I was woken up many times throughout the night, and when I woke up my body was covered with bite marks.

After this experience, I realized the importance of avoiding camping near water sources during mosquito season.

3. Always carry mosquito repellent products and their effectiveness

DEET spray: commonly used and highly effective, effective for hours, especially suitable for areas with dense mosquito populations; the disadvantages are its strong odor, severe skin irritation, and damage to some equipment materials.

Mosquito coils: They form a protected area around the camp, but are greatly affected by wind.

Mosquito net: A must-have for sleeping, it provides good protection but is inconvenient to carry on long hikes.

Mosquito repellent wipes and spray bracelets: suitable for short or light activities, portable but short-lasting.

For multi-day camping, the combination of spray + mosquito coil + mosquito net is often used for best results.

In areas with high mosquito density, people still rely on chemical repellents even if they prefer natural products.

4. Clearly avoid using mosquito repellent products

High concentrations of DEET or strong chemical sprays: have caused dryness, redness, and irritation to the skin, and have damaged backpacks or clothing materials.

Mosquito repellent candles and mosquito repellent flashlights (containing chemical additives): burn quickly, have limited mosquito repellent effect, and release some harmful gases.

Mosquito repellent patches and wristbands: Citronella and other essential oils have a limited release range and are almost ineffective in areas with dense mosquitoes.

Sprays labeled natural but containing chemicals like permethrin: While effective, they can be toxic to wildlife and aquatic ecosystems.

5. Wearable mosquito repellent product experience

Mosquito repellent bracelet: The essential oil ingredients are effective in environments with mild mosquitoes, but provide insufficient protection in densely populated areas; the scent fades easily and needs to be worn securely.

Mosquito repellent patch: can be applied to clothing or skin, effective for a short time and when stationary; the effect weakens after exercise or sweating; the coverage radius is small and the position cannot be adjusted after application.

Mosquito-proof clothing: Long sleeves and trousers are treated with permethrin, covering the skin, breathable and comfortable; the mosquito repellent component weakens after washing several times; uncovered areas will still be bitten, and there is some concern about the chemical treatment.

Overall experience: Wearable products are suitable for short trips or as backup. For long trips or in mosquito-dense environments, they need to be used in conjunction with sprays, mosquito coils, etc.

6. Major concerns about bites in the wild

Disease transmission: potential risks such as malaria, dengue fever, and West Nile virus.

Itching interferes with rest and concentration, and scratching can easily lead to infection; the bite marks are obvious and do not disappear for several days.

Allergic reactions: May cause severe swelling and pain; the risk is greater in remote areas where medical care is not readily available.

7. Demand for ideal mosquito repellent products

Long-lasting protection: effective for 8-12 hours, suitable for long-term outdoor activities.

Natural and safe ingredients: Using essential oils such as citronella, eucalyptus, and lavender oil, without synthetic chemical stimulation, suitable for sensitive skin.

Waterproof and sweat-proof: adapt to high temperature, strenuous exercise, rainy days and other conditions.

Multi-purpose: Available in spray, lotion, and wipes, it's suitable for skin, clothing, and equipment. It leaves no greasy residue and does not damage materials.

Mild or odorless: Does not affect the enjoyment of natural scents, with optional scents of light eucalyptus or citronella.

Portable and durable packaging: small spray bottles, roll-on wipes, and portable wipes,

resistant to outdoor wear and tear.

Integration with mosquito repellent clothing: Clothing is uniformly treated with natural mosquito repellent, covering the entire body and reducing the need for reapplication.

Environmentally friendly: The packaging is recyclable or biodegradable and harmless to wildlife.

Hypoallergenic: Safe for children and pets, contains no artificial fragrances, preservatives or other irritants.

Summarize

Sanitation workers typically begin their workdays between 4:30 and 5:00 AM and continue until 10-11 AM . In the summer, to avoid the heat, they sometimes clean in the evening. From late spring to early autumn, they encounter mosquitoes almost daily, especially in the early morning around garbage cans, stagnant water, vegetation, and drains. On humid or rainy days, swarms of mosquitoes disrupt concentration and comfort. Mosquito bites can cause itching, distraction, rushed work, skin swelling and infection, mental stress, and can even spread dengue fever and malaria, impacting both health and work attendance.

Protective measures include long sleeves and long pants, mosquito repellent sprays / creams, patches, and coils, but these have limited effectiveness, poor durability, high cost, and inconvenience. Commonly available mosquito repellent sprays, creams, patches, bracelets, and coils are generally affordable but short-lived and poorly perspired. High-quality, long-lasting products are expensive and difficult to obtain.

An ideal mosquito repellent product should:

Lasts for more than 6-8 hours, resistant to high temperatures, water and sweat

Safe and mild, hypoallergenic, light and quick-drying, no irritating odor

Affordable, accessible, and available in a variety of formats

Environmentally friendly and harmless

It is best to have subsidies and regular supplies from employers or the government

This can significantly improve the health, safety and work efficiency of sanitation workers.

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